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ORIGINAL ARTICLES.

SOME CONSIDERATIONS ON THE CLASSIFICATION, PROGNOSIS, AND TREATMENT OF CERTAIN RENAL DISEASES.[1]

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IN accordance with a happy fashion of the day, that is leading medical men to centralize their attention upon certain of the more important topics in medical practice, I have ventured to contribute my views on some matters relating to renal disease. And I start out with the proposition that physicians will always find it of practical advantage to discover the exact pathological conditions that are associated in any case with renal manifestations; and especially whether they are referable to a primary disorder of the kidneys, or to some systemic dyscrasia.

But I do not urge this discrimination because I believe that a differential diagnosis will always favorably affect our treatment, but rather because I am firmly of the opinion that otherwise the natural course of the disease would be misunderstood, and the prognosis consequently a matter of guesswork.

The present paper is mainly founded upon my personal study of Bright's disease in ninety-six cases selected from a much larger number from my hospital and private records, those only being utilized which had the requisite fulness, in the matters of clinical history and post-mortem findings, to justify me in retaining them for the purposes of study. Though I may err in the interpretation of my data, and I am willing to admit that a larger number of observations may at any rate alter the ratios which I give, I still feel bound to state that, numerically, I believe my cases are entitled to an equal credibility with any similar number of cases observed by trained and educated men under unusual advantages for taking and registering their observations; and I, therefore, hold that the data are adapted to form a basis for clinical study, and hence, for practical inference.

Starting from the standpoint of pathological anatomy, I shall first adopt a classification that recognizes certain known morbid states of the kidney, though upon the matter of nomenclature I may be at variance with some of our pathologists. But each variety of renal disorder that I shall name will represent, with more or less distinctness, a type of Bright's disease, and by that term I refer to a group of clinical symptoms in which we note special urinary phenomena, such as the presence of peculiar cylindrical-bodies (casts), albumen, often an altered volume, sometimes a notable deviation in the specific gravity from a given standard, together with certain gastro-intestinal, nervous or cardio-vascular phenomena that have been taken to characterize a series of closely allied conditions passing under the popular name of "Bright's disease." We shall presently take up these several varieties, and see wherein they are allied, and on what points they differ.

In giving my classification, I may remark that it is broader than one which is purely clinical. But, as the present state of pathological knowledge is far in advance of the clinical, and as the several varieties that I give are matters of easy demonstration, it is natural that pathologists should hold to their data, even if clinicians cannot match them in giving bedside criteria for each pathological change.

Classification on a Pathological Basis.

1. Passive congestion of the kidney.
2. Acute diffuse nephritis.
3. Chronic diffuse nephritis.
   Recognized sub-varieties:
   a. The large kidney.
   b. The kidney of small or medium size.
   c. The small or "little gray kidney."
4. Acute parenchymatous metamorphosis.
5. Chronic parenchymatous metamorphosis.
   Recognized sub-varieties:
   a. The large white kidney.
   b. The medium or small kidney.
6. The sclerotic kidney.
7. The waxy kidney.
8. The gouty kidney.

Adopting, then, for the time being, this classification, and studying the clinical symptoms of each on this basis, I venture the following statements:

1. In any case of ordinary venous congestion of the kidneys, whether from a surgical accident, such as a fracture of the spine, or from a systemic disease, such as purpura hemorrhagica, or local affections, such as hydropericardium, pleurisy with effusion, etc., where the kidneys are found the seat of temporary venous congestion, death is apt to occur by coma, or from pulmonary œdema, with such gastric phenomena as nausea and vomiting. The specific gravity will not, necessarily, be abnormal, but there will usually be albumen, sometimes granular, or even blood casts (these latter we may expect); and the quantity of urine will vary from six ounces per day to the normal. Sometimes, or generally, an infarction of the kidneys, such as may occur during the course of an endocarditis (and it occurs at some time or other in about one-third of them), will not be recognizable by any other than these symptoms, unless we have to do with the suppurative or infective variety of endocarditis in its later stages. And, since the infarct is due to a primary embolus, with secondary and collateral venous stasis, it follows that, at first, certainly, there is localized venous engorgement, and, consequently, such a train of symptoms as it

[1] A portion of this paper was read at a meeting of the Clinical Society of the New York Post-Graduate School, Dec. 5, 1885.

produces; of course, in conjunction with more or less increased vascular tension in the unplugged arterial vessels.

Thus in the case of a patient who died recently at the Post-Graduate Hospital, the urine was scanty, albumen and casts in abundance were present, and the autopsical findings led us to believe that the abnormal condition of the urine was due to a thrombosis of the kidney, secondary to renal embolism, following ulcerative endocarditis of the mitral valve. The patient died in coma, apparently of uræmic origin. And it appears to be a matter of common acceptance that when pressure had been brought to bear upon any of the renal veins (outside of the organ), from any cause, we may find albumen, casts, and a diminished volume of water; all of which facts are perfectly compatible with the laws of urinary pathology. Such symptoms occurred in all cases of venous congestion that have come under my notice.

2. Acute diffuse nephritis appears to be rare, at least as a cause of death. Its frequency in my cases is represented by a percentage of two, and the causes were "catching cold in the loins" and operation for a urethral stricture. Both patients died in uræmic coma, while nausea, vomiting, with frequent attempts at micturition, and œdema of the extremities, were symptoms observed. The sp. gr. of the urine varied from 1.027 to 1.028; albumen was found when looked for; but the urine was either scanty or suppressed. In one of these cases it was observed that the affection was unilateral, and this point leads up to the statement that it is by no means uncommon to find that one organ is far in advance of the other in the degree of its morbid change; and hence comes the natural conclusion, that while one organ is furnishing, through the urine, many of the symptoms from which an unfavorable prognosis may be made—as, for example, an abundance of albumen and casts in variety—the other organ may be doing over-work, and in fact supplying the place of its fellow. This condition is most frequently noticed in the advanced stages of chronic diffuse nephritis.

3. In introducing the topic of chronic diffuse nephritis I find that it constitutes one of the most common forms of nephritic disease, forming about forty per cent. of all the cases commonly classed under the term Bright's, whether acute or chronic. It probably exists under three forms, or to speak more accurately, I find it convenient to distinguish three forms, the distinction being based upon the size of the organ. In the first, the weight and measurements are increased, partly by the swelling of the epithelial elements, and partly by an infiltration of the fibrous tissue. As this fibrous deposit shrinks, the epithelial elements are also necessarily contracted; so that when the process has continued for a time, the kidney has returned to about its normal size, but manifests in a variety of ways the fact that contraction has taken place; later the shrinkage reaches such a point that the organ is permanently diseased in all its parts, and the unhappy bearer stands constantly on the edge of a precipice.

In the large form (3 *a*) I have found as an antecedent condition either inflammatory rheumatism, endocarditis, or phthisis, the latter in about one-half of the cases. Of the usual symptoms, there are apt to be headache, dizziness, vomiting, ascites, or anasarca; the specific gravity of the urine varies from 1.014 to 1.026, while the average is about 1.020. Albumen is present in large amount. The casts are hyaline and granular, large or small. The urine is usually scanty, rarely reaching forty ounces per diem. Death occurs from coma, syncope, or exhaustion. In the medium-sized kidney of chronic diffuse nephritis (3 *b*), rheumatism, endocarditis, or pericarditis preceded the disease in seventy-five per cent. Patients with this kidney have nausea and vomiting; headache, dizziness, dyspnœa, frequent desire to micturate, and swelling of the extremities or general anasarca. The specific gravity will vary from 1.009 to 1.030, with an average of 1.018. Albumen will be present (in quantity from a trace to seventy-five per cent.); there will be granular and hyaline casts; the urine is usually scanty; and death takes place from exhaustion, coma, heart failure, or œdema of the lungs.

In the small variety of chronic diffuse nephritis, the "little gray kidney" (3 *c*), rheumatism of the inflammatory variety was an antecedent condition in sixty per cent.; phthisis in thirty per cent.; carcinoma in twenty per cent.; scarlatina in one per cent., though these precursors were so intermingled with one another as prior conditions, that it was impossible to determine their relative importance as causative factors. Among the symptoms noted were frequent micturition, headache, dizziness, attacks of palpitation, faintness and diarrhœa alternating with constipation. Among the urinary symptoms noted were a comparatively low specific gravity, averaging (in seventy-five per cent. of the cases) below 1.014; frequent absence of albumen and casts, the former exceptionally reaching fifteen per cent. by volume. Death takes place in the customary way, either with profound coma, or by sudden cardiac or respiratory failure.

In gross appearance, this form of kidney is very like the sclerotic kidney (arterio-capillary fibrosis of Gull and Sutton), but it is different in many ways, as we shall see at another place. In the little gray kidney, we note a very regular antecedent condition of systemic disease; among the symptoms more or less œdema of the extremities or anasarca are common occurrences; there is also a moderate but fair amount of albumen in the water, which is apt to be scanty. In the sclerotic form the antecedent conditions are obscure; there is little tendency to dropsy; more or less polyuria; slight albuminuria; but a marked alteration of the vascular system.

Let us now review these three sub-varieties of chronic diffuse nephritis, and observe whether they do or do not bear any intimate relations to one another. First, we revert to former statements that they may, in accordance with the known laws of pathology, bear the relation to one another that has already been drawn; the large, medium, and small kidney, representing the successive stages of one affection. But apart from these considerations let us pass to the clinical symptoms of each.

First of all, we note one constant prior condition

that is not present with any degree of regularity in any other form of renal disease. I refer to acute articular rheumatism, endocarditis, or pericarditis. The other clinical phenomena are best studied by reference to the following table.

TABLE I.

Chronic diffuse nephritis.	Gastric symptoms.	Nervous symptoms.	Specific gravity.	Albumen.	Casts.	Amount of urine.	Mode of death.
Kidney of large form,	Present.	Present.	1.014–1.026 av. 1.020	None to over 50 per cent.	Hyaline and granular.	Usually scanty.	Usual way.
" " medium size,	Present.	Present.	1.009–1.030 av. 1.018	Trace to about 30 per cent.	Hyaline and granular.	Usually scanty.	Usual way.
" " small size,	Present.	Present.	1.010–1028 av. 1.013	Small amount; trace to 10 per ct.	Usually absent.	Scanty or in excess.	Usual way.

It is plain, in the first place, that the symptoms yielded by the large and medium-sized kidney offer small opportunity for a differential diagnosis, the only points of manifest difference being in the quantity of albumen, which in the large variety is abundant, and in the medium kidney of less amount, and in the small of still less, but even on this point there is considerable range; for though in the large kidney, if present, it may average fifty per cent. by volume, it may be absent; in the medium, although, if present, it may average about thirty per cent., it may be reduced to a trace; in the small kidney, if present, it will not average over ten per cent., but may be absent; but such averages are only applicable to a large number of cases taken together where the amount has been estimated a number of times, and then averaged. So of the specific gravity, a single examination in any case would yield little that was valuable, owing to the variations in the specific gravity from day to day through the operation of natural causes. If, on the other hand, we examine the specific gravity of our cases combined, we find that while in the large it is more commonly about 1.020, though averaging from 1.014 to 1.026; in the medium kidney it averages 1.018 with a range of from 1.009 to 1.030; and in the small it is 1.013 with a range from 1.010 to 1.028. And these differences are such as would naturally ensue under the conditions given, the albumen and specific gravity falling contemporaneously and in pretty uniform ratio. In other respects there is no difference in the symptoms more than that as the kidney becomes quite small, the amount of water is apt to increase and casts will usually be absent, two points that apparently need no explanation. From a combined study, therefore, of anatomical, pathological, or clinical facts, our evidence appears to favor the view that these several forms of chronic diffuse nephritis are merely separate stages in one type of the disease.

4. I next take up the subject of acute parenchymatous nephritis. A diagnosis of this variety from a clinical point of view should usually present no difficulties. It is chiefly secondary to scarlatina, diphtheria, measles, pneumonia, typhoid, and typhus, or any condition of the system whereby the kidneys are suddenly called upon to throw off the effete products of the body in an unusually active manner, especially as in those cases where the skin, lung, liver, and intestines, are unable to do their part. Occasionally the disease appears to be idiopathic, but there can be little question that it is rarely so. We have simply failed to discover the primary cause.

In a most marked degree we see acute parenchymatous nephritis in scarlatina, as in the following case, where I made the post-mortem examination at St. Luke's Hospital.

D. S., an American boy, sixteen years old, came to my class at the Demilt Dispensary in 1878. He was then suffering from necrosis of the femur. On April 22d he entered St. Luke's Hospital for surgical treatment. On the 25th he had a slight chill, and within twenty-four hours developed scarlatina. On the night of the 27th his temperature rose to 104°, and pulse to 146. He died in coma, after suppression of the urine had lasted twelve hours.

At post-mortem examination the kidneys were found intensely anæmic; microscopic examination showed that the epithelium throughout the organs was intensely granular, while the Malpighian bodies were infiltrated with leucocytes, the latter condition described by Klebs under the name of glomerulonephritis. Probably the pressure thus brought to bear upon the capillary tufts prevented the excretion of water, and brought on the fatal symptoms.

In a most marked form we notice acute parenchymatous nephritis in pneumonia, whether lobar or lobular, but most distinctively in the former, though it is not uniformly present, probably because some other apparatus of the body has succeeded in relieving the kidneys of the special strain. This complication is of great importance and I have met with several marked instances where the secondary disorder presented a greater menace to life than the primary. Thus in the case of a medical practitioner from Connecticut, who was attending the Post-Graduate School in the winter of 1882, a cold taken in the train by which he came to New York, led to a lobar pneumonia, which was nearly fatal through the renal complications. Coma developing during the first days of the attack, drew the attention of the attending physicians and myself to the probable cause, and inquiry led to the discovery of scanty urine, which was found to contain albumen in large amount, with granular and blood casts. In this case vigorous local treatment and the free use of diffusible stimulants, of which the carbonate and muriate of ammonium proved the most efficient, restored the functional activity of the kidneys, and in due time convalescence was established.

I may say, parenthetically, that in such instances,

especially if the kidneys have been previously damaged, I am chary about using alcoholic stimulants, from fear of the irritation of the renal organs that they sometimes produce, and I rely very largely upon active fomentation, blisters, and revulsives. It is a fortunate circumstance that in such cases external applications can easily be made to act favorably upon both lung and kidney simultaneously.

In acute parenchymatous nephritis the specific gravity is usually within the normal range; thus it will commonly be found between 1.020 and 1.030; in most cases I have found it between 1.020 and 1.022; albumen in large quantity will be a marked feature, often very abundant; and we may confidently look for blood casts, granular casts, and granular matter. There will also generally be decided gastric and nervous phenomena, and death will take place under some one of the many forms that are induced by depression of the nerve centres from the poisoned blood.

But in the majority of instances we have good reason to believe that if the primary disease resolves, the secondary or renal will follow suit. The swollen and granular epithelia will assume their normal characters, and perhaps even the corpuscular infiltrations of the Malpighian bodies may disappear. At any rate, our clinical data lead us to hold that acute nephritis, under the conditions named, will not become chronic in a great number of cases; and we have reason to say, therefore, that the patient has entirely recovered from an attack of acute Bright's disease.[1]

5. Chronic parenchymatous metamorphosis or inflammation, as an uncomplicated affection, is recognized best under two morphological varieties, that of the "large white kidney," and of the medium-sized kidney. This former condition is seen more frequently at post-mortem examinations than any other renal change that can be classed under the general term of Bright's disease. It constitutes about one-third of this class, and for the simple reason that it owes its existence usually to phthisis, which is the most prevalent disease we have to deal with. In fact, where there is the large white kidney we may expect to find pulmonary phthisis in eighty per cent. of the cases. But though to the naked eye the implication of the kidney appears to suggest that we should have very positive renal symptoms, the truth is, *they are rare.* Nausea and vomiting seldom occur. Serous effusions are not very common, and often a slight dropsy may be attributed to the watery condition of the blood, due to the wasting disease. Nor will the specific gravity of the urine give much assistance in the diagnosis. I have found it to vary from 1.010 to 1.028, with a general average of about 1.020; albumen may be abundant or absent; usually casts are entirely absent, though we may occasionally or in some cases find the hyaline or granular variety. There is generally observed a diminution in the amount of water. In fact, the renal complication is fatal, so far as my cases show, in only one case out of five.

5 *b.* The second form of this kidney disease is the precursor of the large white kidney, and may be found after any suppurating or wasting disease has been in existence a few months; when the disease has existed for a year or more, we usually have a kidney of the "large white type." The more advanced the disease, and especially the more extensive the suppuration, the larger the kidney, and the more pronounced the pathological changes.

In the smaller variety severe effusions are comparatively rare; nervous symptoms even less so; the specific gravity varies from 1.012 to 1.024, though 1.016 is not infrequent. Albumen is rarely present in large quantity, usually is absent or represented by a trace. Casts are rarely found. Water is apt to be scanty, as in the "large" variety. Table II. shows the points that offer for a differential diagnosis:

TABLE II.

Chronic parenchymatous metamorphosis of kidney.	Name and duration of causative disease.	Gastric symptoms.	Nervous symptoms.	Amount of water.	Specific gravity.	Albumen.	Casts.	Cardio-vascular symptoms.
Medium sized kidney,	Phthisis, 80 per ct. 1–3 months,	Rare.	Very rare.	Apt to be scanty.	1.012–1.024 av. 1.016	Commonly absent.	Rare.	Œdema very rare.
Large white kidney,	Phthisis, 80 per ct. 1 yr. or upward.	Rare.	Very rare.	Apt to be scanty.	1.010–1.028 av. 1.020	Abundant or absent.	Generally absent, or hyaline or granular.	Rare.

From a study of it we readily see that a differential diagnosis must be based purely on the fact that in something over three-fourths of all cases of phthisis, where the duration has not exceeded three months, the smaller form of chronic parenchymatous nephritis will be the rule, whereas in something over three-fourths of all the cases of phthisis where the disease has lasted one year or more, the "large white" may be predicated to exist, and especially if the lung disease has been rapidly destructive in its course. But there is some good reason to believe that the changes in the epithelium in these cases are not altogether pathological; at first (we may judge from the analogy of the acute form) the swollen and granular epithelium owes its condition to the proper task it has undertaken to separate from the body an undue amount of unassimilable or effete material that is disturbing the proper equilibrium of the body. It is only after this excrementitious matter has tarried so long in the kidney that the cells become overcharged and poisoned by matters that they would have discharged successfully had they only been burdened with less work. In cases where large masses

[1] I have used the term "parenchymatous nephritis," as the name has met with general acceptance. The term "parenchymatous metamorphosis" I believe to be better, in the present state of our knowledge, there being grounds for believing that parenchymatous changes are not strictly inflammatory.

of fatty and granular débris are thrown off from these organs, it is evident that they have suffered material damage, and we have little reason to suppose that there is any restitution of equivalent tissue.

6. In the so-called little red, granular, contracted, or cirrhotic kidney, which I prefer to call the sclerotic (*skleros*, hard), there appears to be no doubt that we have a disease which has distinctive pathological and clinical features from any of the forms of Bright's disease I have already mentioned. There is a noteworthy thickening of the small renal vessels that is prominent in our minds, since Gull and Sutton, in 1872, called the attention of the profession to the anatomical findings. But it seems probable from the conjoined labors of many pathologists that this "arterio-capillary" fibrosis is a general disease of the vessels, and that all portions of the body may be similarly attacked. The antecedent cause seems to be obscure, but whatever it may be, the blood becomes poisoned and then awakens in the system a condition of arterial tension that later induces thickening of the vascular coats and hypertrophy of the left side of the heart. And these theories are in full accordance with physiological experiments.

Of seven cases in which I have pretty full clinical and post-mortem notes, I find the following antecedent affections: Malarial fever, one; pneumonia, one; typhoid fever, one; progressive muscular atrophy, one; cold caught two years previously, one; syphilis and rheumatism, one; gout, one; and yet we have no reason to say from the above findings that the blood was sufficiently poisoned to produce the disease. There still remains for us to discover the real cause.

And now for the symptoms. Of these, those referable to the gastro-intestinal tract and cerebro-spinal or sympathetic system are mainly the same as are seen in chronic diffuse nephritis. But the specific gravity of the urine is almost always low, ranging from 1.008 to 1.012, with 1.010 as a prominent figure. If albumen is present in any appreciable quantity it is slight. A larger amount never occurs until suppression is setting in. The water will be copious when the disease is at its height, and will diminish, other things being equal, only when dangerous symptoms are at hand. Death may occur from apoplexy, cerebral or meningeal, sometimes from sudden heart or respiratory failure when the patient is apparently in excellent health. Occasionally the final result will be delayed by convulsions, coma; and œdema of the lungs will appear to be the final trouble that closes the drama.

In this form of renal disease casts are infrequent and may be absent for long periods; when present, those of the hyaline variety are most common. Dropsy may be altogether absent. The polyuria, persistent low specific gravity of the water, with slight albuminuria, an occasional cast, but pulse of high arterial tension, and constant headache will direct the physician to the proper diagnosis. This is the cause of death most often in the so-called "heart disease" of the laity. Often both physician and friends may be totally unprepared for the final event, though an occasional examination of the urine would have prepared them for it.

7. The "gouty" kidney. This form of renal disease that has been regarded as so destructive, is in reality nothing but the kidney of chronic diffuse nephritis, in which crystals of sodium urate have lodged. Sometimes the crystals will be found in only one kidney.

8. There is also a waxy kidney, where the walls of arteries and arterioles are infiltrated with waxy or amyloid material. Whatever this material may be, and from whatever source it may be derived, there is no doubt that the change is a consequence of some chronic suppurative process in the body or of a wasting disease, such as syphilis.

Where there is any considerable deposit of waxy matter in the vessels the urine is found to have a low specific gravity, as from 1.006 to 1.010, and the amount of water will be large; albumen will be present in varying amount. Casts will often be absent and the hyaline variety will predominate. The diagnosis is based upon a study of these facts.

It is proper at this point to allude to a form of renal affection that is associated with the pregnant condition. Of this I am not prepared to speak from personal experience. But I am free to say that (contrary to some teachings of comparatively recent date) the presence of albumen and casts in the urine, with scanty excretion, and more or less dropsy, form no necessary bar to the proper performance of natural labor on the woman's part, and that the physician should exercise a wise discretion in countenancing artificial delivery under such circumstances; the facts being that in a large number, perhaps the majority of instances, a condition of more or less pronounced nephritic disorder may prevail during the latter months of pregnancy, and yet the delivery may take place in a natural manner, and at the proper time, with safety both to mother and child.

Having thus reviewed the several varieties of Bright's disease, with reference to morphological changes and symptomatology, we are now confronted with the prognosis in each of them.

First, with reference to nervous congestion due to interference with either venous or arterial circulation, I may repeat that the albumen, casts, and scanty urine will disappear on removal of the cause, if this be possible, as in the case of an enlarged spleen, an ovarian tumor, or renal infarct.

In acute diffuse nephritis, where the cause may have been a blow, exposure to cold, or operation upon some portion of the genito-urinary tract, or extensive burns, etc., local, combined with general treatment will often carry the patient through, and there will be no subacute or chronic condition following. Of course, the disease is a dangerous one.

In chronic diffuse nephritis, the duration of renal symptoms is apt to be long, months or even years, depending in many cases upon the gravity of the antecedent or associated general dyscrasia, such as chronic articular rheumatism or gout, and especially on the activity of its manifestations and its behavior under treatment. But there is reason to suppose that if the systemic disease is held in check, the renal trouble will ameliorate correspondingly.

In acute parenchymatous nephritis we have a disease of greater or less intensity in particular cases. Recognizing as its cause some exanthem, continued fever, or intoxication by animal or mineral poisons, we should turn to the original disease in order to measure the secondary or renal. Yet this rule will not always be practicable. Usually, it may be said, if the prior disease is tractable we need not anticipate uræmic disorders.

In chronic parenchymatous change, when phthisis or some wasting disease is a forerunner, the prognosis is almost uniformly bad for a total disappearance of the symptoms; though it is the primary disease that most often kills.

In that obscure disease that I have called the sclerotic kidney, but which owes its danger mainly to vascular changes, we shall continue to be surprised by its peculiar phenomena, because we do not yet know their cause. There can hardly be any doubt that there is no improvement at any time or under any circumstances in the structural condition of the kidney, but always a gradual progression toward a fatal issue. But that the final event is delayed for years by appropriate treatment, I am firmly convinced.

In the waxy or amyloid kidney we have an affection that is to a great extent an index of other systemic changes. So long as the suppuration or chronic wasting process is going on, there can be no betterment in the diseased vessels. But judging from analogy it is reasonable to suppose that if the primary affection can be subdued so will the secondary. For we are led to believe from clinical experience that where we have a waxy liver, the result of chronic suppuration, the removal of the morbid focus, is at once associated with a decrease in the size of the organ. In both cases it is probable that the vessels only receive the waxy deposit.

In the matter of treatment, if we bear in mind the considerations that have been given, our therapeutic resources may be properly directed.

In cases of venous congestion due to pressure on renal veins it is plain that relief is to be sought in measures that will disembarrass the renal circulation, or, as perhaps in the case of infarction, stimulate the unaffected portions of the kidney to increased work until the uræmic symptoms have gone by.

And so in the acute diffuse variety, we have to recognize the condition and struggle with it as best we may, calling upon the skin, lungs, and intestinal tract to assist with all the power they have at command.

In acute parenchymatous nephritis, an active local treatment is most desirable, and resort may be had to dry cupping, rubefacients, and poultices, but we should also specially direct our measures toward running off the fluids by such tissues as are unaffected; thus in scarlet fever the bowels should be kept open; in pneumonia the skin should be freely exercised. At the same time those drugs that stimulate the renal secretions should be held in high favor.

I am fond of using the spiritus Mindereri in connection with the muriated tincture of iron and Hoffmann's anodyne, and have found this combination to act admirably. Sometimes Rochelle salts will answer as a brisk purgative; of course in some instances, especially in pronounced dropsy, we may have to resort to hydragogues, such as elaterium, in one-quarter grain doses. There is no doubt in my mind that the latter give relief, though I have seldom had occasion to use them. I have also used a well-known elixir purgans[1] with some advantage, in such cases.

In the chronic forms, whether of the parenchymatous or diffuse varieties, we have first to attack the predisposing disease, be it phthisis, the lithic diathesis, or any other dyscrasia, and then finally meet the results of the disease. If, for example, passive effusions are endangering life, either by producing pericardial effusions, and so cardiac embarrassment; or if pulmonary œdema or ascites is making respiration difficult, it may be best so to stimulate the kidneys that they will be induced to take a greater activity. This can be effected in various ways, by diuretics, of which I hold that the muriated tincture of iron holds the first place, or by the hydragogues already mentioned. I give the former in doses varying from fifteen to forty minims, three times a day; or I order large quantities of alkaline waters to be taken, such as Vichy or the alkaline Buffalo lithia water (No. 2). Sometimes Clysmic water, given in amounts averaging about three pints daily, with as much skim-milk, will answer excellently in chronic cases. It is notorious that the kidneys will usually respond. In cases of lithiasis, I find that salicylic acid,[2] given in ten grain doses, both meets the anti-lithic indications and also promotes the flow of water. It may be given advantageously in Poland water, or better still in Clysmic water, but these waters, to be beneficial, should, of course, be taken in some quantity. These chronic cases may be successfully treated for some years in the way I have indicated, though they are prone to acute exacerbations, in which it may be necessary to resort to digitalis infusion in drachm doses, perhaps to fomentations of this drug. After the attack has thus been controlled, the patient may return to the simpler remedies. In most acute attacks in chronic diffuse nephritis, or in the granular (sclerotic) kidney, irregular respiration or cardiac action may seriously threaten life. In such cases, I have been invariably successful in bridging over the early attacks by hypodermatics of brandy. In most instances it is useless to attempt medication by the stomach. The hypodermatics of brandy may then be followed by morphia, and the results have, in my hands, been always good.

Sometimes the most obstinate symptom is nausea or vomiting. It is a question, however, whether the physician should be too anxious to arrest it. It is probably induced by a temporary congestion of the gastric walls, which, for the time being, are subject to a vasomotor neurosis similar to that which attacks other parts under the influence of uræmic poisoning. The fluid is due in great part to exudation from the capillaries, and the stomach is eliminating the poison vicariously. In my experience, the nausea is best

[1] Eli Lilly & Co.

[2] I usually use Frye's granular effervescent salicylic acid.

controlled by such alteratives as hyd. c. creta, given one to three times daily in five grain doses.

In conclusion, it is seen that, so far as the prognosis is concerned, in many cases the manifestations of Bright's disease disappear not to return, certainly those connected with the exanthemas, pneumonia, and typhoid fever, while even in the most common forms of all, the purely parenchymatous metamorphoses—the renal disease plays a comparatively unimportant *rôle*—death being usually due to primary disease of the lungs.

In conclusion, it may be said that of the types of Bright's disease here given, the special form can usually be determined from a history of the case, together with the attendant clinical phenomena, particularly if the patient has been long enough under intelligent observation to determine the range of the urinary symptoms.

251 MADISON AVENUE.

THE USE OF BORACIC ACID WITH VAGINAL TAMPONS.

BY HARRIS A. SLOCUM, M.D.,
OF PHILADELPHIA.

IN the treatment of the various pelvic troubles where the use of tampons is indicated, one of the disadvantages has been the development of an extremely offensive odor, unpleasant to the physician and distressing to the patient, ordinarily occurring after a retention of the cotton for more than forty-eight hours. Occasions arise when it is inconvenient for the patient to return every two or three days, and it then becomes a matter of importance to adopt some means which will prevent the usual decomposition, and allow her to retain the tampon for a longer period.

To secure this end, a number of expedients have been tried, of which I shall mention but one, viz., the use of boracic acid. From the first trial it has served the desired purpose effectually, and has given decided and striking results. Cases having profuse and offensive leucorrhœa among the Russians, Poles, and negroes of the Philadelphia Dispensary service have been subjected to this treatment, with the unvarying result of entirely preventing the occurrence of the usual unpleasant odor. In several instances the menses have appeared while the tampons were *in situ*, and have, in each case, saturated the cotton, which, upon removal, was found as free from smell as when introduced.

Following is a short description of the mode of application: While using Sims's speculum in either the genupectoral or lateral position, the vagina is cleansed with a piece of wet absorbent cotton held in a pair of uterus forceps, partly withdrawing the speculum to allow of access to the posterior wall. The membrane is then partly dried with a fresh piece of cotton, and several scruples of boracic acid introduced on a spatula, and distributed over the area with a wisp of cotton, or by the aid of the forefinger. The slight moisture permits the powder to adhere, forming a moderately thick coating over the entire wall. In an ointment jar or other convenient receptacle, is placed about an ounce of the acid, and each piece of cotton, held in the forceps, is thoroughly rubbed in it before insertion.

Great care is always necessary in the introduction of tampons, even when they remain but twenty-four hours, to prevent undue pressure upon rectum or urethra. When they are to remain in position a week or longer, greater attention than ever must be paid to these points, on account of the tendency of the cotton to pack, through absorption of moisture and continuous pressure.

Comparing boracic acid with other agents, I have not found one which so completely fulfils its office, without offering objectionable features of its own. With very free or unpleasant discharges a proportionately larger amount of powder must be used.

Whether it affects the vaginal tissues advantageously or otherwise, I am not prepared, at present, to say, though I have frequently noticed after its use, and when that which remained from the old packing had been removed with a piece of wet cotton, that the vagina was much paler than when the tampon was introduced. If, by repeated trials, this observation can be proved correct and constant, it may reasonably form the basis for a series of experiments in the treatment of vaginitis. That the paleness just mentioned is not entirely due to the mere pressure of the cotton, seems evident from the fact that simple cotton tampons are frequently tinged with blood on their surface, although carefully placed and not tightly packed.

Oakum tampons seem particularly apt to irritate the membrane, and cause oozing after forty-eight hours' retention. So decided is this tendency to cause bleeding, that when a case presented where I wished to use oakum, it was not introduced until a layer of cotton had been placed against the vaginal wall, to protect it from the harsh and irritating fibres.

Cotton saturated with boroglyceride is an effectual antiseptic, but will not serve the purpose here. Glycerine produces a copious watery discharge, which, though at times beneficial, is not always desirable, and is ill adapted for long retention, inasmuch as it is diluted and partly removed by the watery discharge it causes.

Notes from a few of the cases treated are appended, in connection with which it should be stated that, before the boracic acid was used, it was a rare circumstance to allow the tampons to be retained longer than three or four days, and when this period was reached, the removal was an operation which anyone would prefer to avoid.

J. B., colored, retroversion with adhesions.

June 16. Tamponed vagina, using boracic acid.

24th. Removed tampon. Slight amount of mucus adhering at position of cervix. No odor. Renewed cotton packing with boracic acid.

July 2. Removed tampon. No odor. Introduced Smith pessary, No. 2.

9th. Removed pessary. Secretion free, but not abundant. Odor decided and characteristic. Washed vagina and renewed cotton, using the acid.

18th. Removed tampon. No odor. Vagina pale.

J. P., white. Patient lives sixty miles from the city, and can conveniently return but once a week. Enlarged, prolapsed, and tender right ovary.

July 2. Used cotton tampon with boracic acid.

12th. Removed tampon. Slight secretion. No smell whatever. Renewed cotton with acid.

19th. Cotton removed. No odor. Vagina pale.

M. H., retroversion with adhesions.

June 15. Tamponed, using boracic acid.

19th. Not the least odor upon the removal of tampon.

A. A., bilateral laceration of cervix, with hypertrophy. Profuse and offensive leucorrhœa.

July 2. Tampon, with boracic acid.

9th. Removed cotton, thoroughly saturated with muco-purulent discharge. Slight odor, not marked.

In this case an odor developed, but was very slight, and resulted from an insufficient amount of the powder being used. If the acid had not been employed, I have every reason to believe that the stench would have been nauseating.

S. U., retroversion.

June 25. Introduced tampon, using boracic acid.

29th. Menses appeared on morning of 26th, and showed at the vulva. Removed cotton, saturated with blood. No odor, not even the characteristic smell of blood.

L. C., September 6th, tampon of boracic acid.

Sept. 12. Removed tampon. No odor whatever.

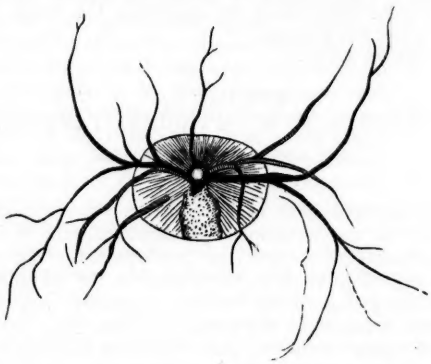
These few cases will serve to indicate the usefulness of boracic acid in this direction, providing the application is thorough, care being taken to coat the vagina well before introduction, and to treat each piece of cotton thoroughly. The operation is generally completed in three minutes.

1208 SPRUCE STREET.

A PECULIAR GROWTH OF THE OPTIC PAPILLA.

BY CHARLES W. KOLLOCK, M.D.,
OF CHARLESTON, S. C.

THIS peculiar growth from the optic nerve was seen in the case of Mrs. M., who sought advice on account of dimness of vision in the right eye and floating bodies in the visual field. When first examined, on the 15th of April last, the vitreous was cloudy, contained floating bodies, and the outlines of the disk were indistinctly visible. No peculiarity of the disk was detected at the examination. Vision $\frac{5}{XV}$ (Oliver's card—or about $\frac{15}{L}$), which was rather surprising, when the cloudiness of the media was taken into consideration. No specific history could be elicited, though she admitted having always been healthy up to the time of her marriage, eight years ago. She had never borne children, and had for some time been under treatment for womb trouble. Iodide of potassium was prescribed in ten grain doses three times a day, to be gradually increased. Two days later a more careful examination was made than the first, when a small bubble-like protuberance was seen upon the disk, covering the point from which the central retinal vessels emerged and entered. Owing to the haziness of the vitreous, nothing more definite concerning the growth could be made out. About this time a patch of retino-choroiditis was discovered to the inner and lower side of the disk, and well forward toward the ciliary body. Under the influence of the iodide, vision and media rapidly improved, the former becoming normal, and the latter perfectly clear, with the exception of one large floating body, which was quite annoying to the patient. The disk was now seen to be inflamed and swollen, but these conditions quickly subsided. The bubble or vesicle-like body could be easily seen capping the central vessels, through which they were indistinctly visible at its edges. While bright and glistening, it was not transparent—a general opacity existing with no distinct nucleus. Later on, as the disk assumed a more natural appearance, a pedicle-like attachment was discovered which seemed to connect the growth with the inner



and lower portion of the physiological cup. By careful examination with the ophthalmoscope there remained no doubt that this was a true pedicle attaching it to the floor of the cup, though there was also some attachment to the vessels, as was proved by the absence of movements except when the eye moved. If there has been any change in the growth since it was first seen, it is a very slight diminution in size and apparent retraction from the superior branch of the vein to the inferior branch of the artery. Its nature must be a matter of most vague supposition. It resembles in some respects a cysticercus, yet it cannot be this, because there has been no increase in size, nor is there any accompanying inflammation of the disk since the subsidence of that connected with the retino-choroiditis. Glioma is uncommon at this age, and its stationary condition would preclude that. Neuroma rarely occurs in connection with cerebral nerves, and is usually without connection with the fibres of the affected nerve. Sarcoma can readily be excluded. Syphilitic growths may be passed by on account of the lack of specific history and symptoms, besides the non-affection of the growth by large doses of the iodide. What then may be the nature of this growth? It may be a hypertrophied nerve fibre, or a fibre which has taken on cystic degeneration. Again, it may be a slowly forming cyst. It cannot be an aneurism, for there are no signs of blood or pulsation in it. Lastly, it may be the swollen end of the hyaloid artery, having perhaps been left congenitally in that condition.

STRANGULATED INGUINAL HERNIA AND EPIPLOCELE; RADICAL OPERATION; EXCISION OF MAJOR PORTION OF OMENTUM; RECOVERY.

By THOMAS S. K. MORTON, M.D.,
SENIOR RESIDENT SURGEON AT THE PENNSYLVANIA HOSPITAL.

F. D., a well-conditioned, muscular negro, æt. twenty-two, was admitted into one of the surgical wards of the Pennsylvania Hospital, on August 27, 1886.

Surgical History.—Ten years ago, he noticed a small lump or kernel in his left groin. It gave him no pain or annoyance, and, but for feeling its presence, he would not have known that anything was amiss. During almost the whole of that time, his work was of the hardest description. Exactly forty-eight hours previous to admission, while loading baskets of peaches upon a steamer, he felt a sudden pain, and a sense of something giving way in that groin, and was compelled immediately to abandon his work. Upon examining the spot, he noticed that a large swelling had appeared. This, as well as the pain, increased greatly; nausea soon set in, and he vomited almost incessantly until admission, for which purpose he walked nearly a mile!

Upon Admission.—He arrived much exhausted by his walk, and vomiting had then ceased. Temp. 102°; pulse rapid, though fair. A large tumor, presenting all signs of strangulated inguinal hernia, was present in the left groin and scrotum. Warm bath, mild narcotism, and ice-bag locally, were employed for an hour, by which time he had reacted from the exhaustion incident to the walk. Anæsthesia to absolute relaxation was then induced, and thorough though ineffectual taxis was made. Everything being in readiness, I at once proceeded to operate.

Operation at 4.30 P.M. The parts, previously well shaved, were washed with ether, then with soap and water, and finally with 1 : 1000 bichloride of mercury solution. A three-inch incision was carried down to the sac, when a stricture at the external ring was discovered and divided. Carrying the finger along the canal, another but tighter, constriction was found at the internal ring, and similarly disposed of. These divisions seeming to make no difference as regards reducibility, the sac was opened to the length of the external incision; it contained no liquid, but was adherent to the contents throughout by easily broken-up lymph. It contained *almost the whole omentum*, and about six inches of small intestine, the former being crowded with small, clotted extravasations of black blood, and had the appearance of beginning gangrene, while the gut, though of an exceedingly dark brown color, had not quite so bad an appearance. A slight thickening and constriction of the sac was found, corresponding to the external ring, while a much more firm narrowing marked the site of the internal ring, the gut between being much swollen and bulbous. Both of these additional constrictions were cut, and the exposed parts covered, for a period of ten minutes, with towels wrung out of 1 : 5000 $HgCl_2$ solution. At the end of that time the gut had begun to assume a beautiful pink tinge at its mesenteric attachment; but the omentum remaining unchanged, its excision was determined upon. For that purpose, it was drawn down until a healthy portion became visible, which was ligated in three portions with "fourteen" day chromicized catgut, the sphacelated portion cut away, and its pedicle returned to the abdomen. Reduction of the bowel was easily accomplished. The retracted sac was then obliterated by deep sutures, the columns of the external ring neatly approximated by four sutures of fourteen-day catgut, and the external incision by interrupted sutures of seven-day catgut, covering in a five-strand drain of the same substance having exit at the inferior extremity of the wound. The dressing consisted of protective, eight thicknesses of moist (1 : 1000) bichloride gauze, thickly powdered upon its wound-surface with iodoform, a large pad of bichloride cotton (dry, but also 1 : 1000), and a double spica of gauze bandage over all.

Progress.—His temperature, after the operation, registered 98°; next morning, 100⅕°, where it remained for one day, and then dropped to 100° for one day more; then to 99°, where it stood for twelve hours, and then permanently regained the norm.

Mild narcotism, and no food for two days, comprised the after-treatment. Bowels moved of their own accord on the seventh day, and continued to do so regularly. No signs of peritonitis at any time showed themselves, and he was without discomfort throughout convalescence.

The dressing was not touched until the tenth day, when, on account of loosening, it was removed, and perfect union found throughout the wound, save a small, superficial ulcer, which marked the former exit of the catgut drain—for both it and the external sutures (buried portions) had been completely absorbed. Except for a few days treatment of this ulcer, no further dressing was employed. He was allowed to get up on that (the tenth) day, and was employed for light work about the wards until September 27th, when he returned to his work. At the time of his discharge, there was no sign of redescent or appearance of the hernia, and he is not even wearing a truss.

For the operation upon, and the privilege of publishing, this case I am indebted to the courtesy of my chief *pro tem.*, Dr. John B. Roberts, acting for Dr. R. J. Levis.

MEDICAL PROGRESS.

Leopold on the Technique of the Sänger Operation.—Leopold formulates the following rules as the result of his experience with the Sänger operation:

1. The patient should be examined and disturbed as little as possible before the operation. The internal and external genitals, however, should be washed with sublimate solution (1 : 2000), or with a three per cent. carbolic acid solution.

2. The operation should be performed as early as possible, at the furthest by the end of the first period of parturition.

3. The operator must be assured of efficient assistants, who have been previously instructed in all the details of the operation.

4. The uterine section should reach only to the movable peritoneum, and ultimately be prolonged to the fundus.

5. After the removal of the child, and before the separation of the placenta, the uterus is removed from the abdominal cavity, and

6, hemorrhage is checked by compression with an elastic ligature, and finally by manual compression.

7. The uterine wound is sutured with silver wire, the decidua being avoided. Coaptation of the muscular surfaces is best effected when, before the sutures are drawn up, the uterus is compressed laterally. The superficial sutures are best made with thin silk.

8. The elastic ligature is now removed, and the further procedures follow the rules of a laparotomy.—*Centralb. f. Gynäkologie*, No. 32, 1886.

THE PHYSIOLOGICAL TREATMENT OF CHOLERA, AFTER SEMMOLA.—We abstract from a recently published work of SEMMOLA (*Nuove Ricerche Terapeutiche sul Cholera Asiatica*), in which this well-known Italian clinician has laid down the clinical and therapeutic experiences gathered during the recent Italian epidemic of cholera, his views on what the author calls the "physiological treatment of cholera." Semmola holds that no cure can ever be expected from any medication directed specifically against the comma-bacillus, and also warns of too heroic a therapeutic interference with the symptoms of the premonitory and the algid stages.

A physiological treatment, in the judgment of the author, is one which is directed toward raising the vital energy of the body, so as to endow the same with a higher power of resistance against the disease without injuring the entire system by the biochemical action of pharmacal agents.

The main features of this treatment are the following:

1. Absolute rest of the affected organs—viz., the gastro-intestinal tract—by observing a strict fasting on appearance of the first diarrhœa stools. As long as the diarrhœa persists no food whatever is to be taken. Over six thousand clinical observations in Naples have shown that even five or six teaspoonfuls of bouillon given prematurely (*i.e.*, before the stoppage of the diarrhœa), sufficed to reproduce the gravest symptoms, such as algidism and asphyxia. After the disappearance of diarrhœa and vomiting, milk may be given in very small quantities.

2. Timely excitation of the physiological powers by therapeutic, or, rather by physiological means. The best of these are, undoubtedly, repeated warm baths. To prove beneficial the baths must, however, be given in the first period of the disease, before any sign of algidism has set in. The application of the warm bath in cholera has been in vogue also in former times, but never yielded any benefits, as it was only employed in the algid stage of the affection. The warm bath is not alone useful, as was held formerly, on account of the supply of heat to the cold surface of the body—a mere physical process—but also and particularly on account of the physiological influence it exerts on the economy. The warm bath excites the peripheral nervous system, and at the same time, by reflex action, the centre of circulation. The consequence of this excitation is a harmonious restoration of the functional physiological relations between the surface of the body and its internal apparatus, especially those of the digestive tract. True, this biological process can only be realized in the first stage of the disease, when the biological relations between the superficial and internal organs have not yet been essentially altered or broken off altogether.

Through diaphoresis the bath favors besides the elmination of toxic substances from the system, which, by affecting the various nerve-centres, cause ominous alterations in the secretory, vaso-motoric, and general oxidation processes. If necessary, the bath can be repeated every one or two hours. After the bath, the patient is to be wrapped up in woollen blankets, and is to be given warm aromatic and weak alcoholic drinks. It is well to give also small doses of opium (laudanum, liqueur de Batteley, chloridine), in order to render the nervous centres less susceptible to the toxic principles, and in order to reduce the increased intestinal secretion. Opium, given at the proper time, aids and supplements the physiological treatment.—*Therapeutic Gazette*, October 15, 1886.

SYPHILIS AND GESTATION.—HIRIGOYEN makes the following notes as to the influence of syphilis on the pregnant female:

1. In the special maternity service of Bordeaux the proportion of syphilitic women is five per cent.

2. The most frequent complication is a premature termination of the pregnancy, a matter which the duration of the syphilis greatly influences.

3. In eight pregnancies among women syphilitic for a year or more, there were two children born living but very puny.

4. In twelve women attacked with syphilis during the first four months of pregnancy, there were twelve stillbirths.

5. Syphilis acquired during the last three months is very dangerous to the fœtus, at least fifty per cent. being stillborn.

6. Over three-fourths of the infants of all syphilitic women were stillborn.

7. To be efficient, energetic antisyphilitic treatment must begin with pregnancy, and continue throughout its entire duration.—*L' Union Médical du Canada*, October, 1886.

THE PHYSIOLOGICAL ACTION OF MENTHOL.—DR. GOLDSCHEIDER, at a meeting of the Physiological Society of Berlin, discussed the action of menthol on the sensory nerves. It was well known that it produced on the skin a sensation of cold, which was commonly ascribed to evaporation. On the other hand, the same sensation, when produced in the mouth by solutions containing menthol or peppermint, was explained by a supposed astringent effect. Dr. Goldscheider had come to the conclusion that neither of these explanations was correct. He made his experiments with a solution of menthol in lanolin, which he rubbed into circumscribed regions of the skin. After the rubbing, the thermometer showed, in all such places, an increase of temperature to the extent of two degrees C., notwithstanding the marked sense of cold produced. The hypothesis of evaporation was excluded by the fact that the feeling of

cold was no less marked when the part rubbed was covered with a watch-glass, and could, therefore, be produced only by direct stimulation of the nerves of sensation of cold. Again, if of corresponding places on the forehead, where these nerves are most abundant, one were rubbed with the menthol ointment, and the other not, bodies which previously had caused no particular sensation would be felt as cold on the former spot, but not on the latter. Dr. Goldscheider, observing that while some regions, as the forehead, were especially sensitive to cold, others, as the elbow and the volar side of the wrist, were so to heat, found that the inunction of these with menthol produced a sensation of warmth, though less striking than that of cold in the former regions; and he called attention to the recent communication of Professor Herzen on the precisely analogous results of pressure on the nerve-trunks in these regions respectively. He therefore concluded that the sensations, in some places of cold, and in other places of heat, produced by menthol, were purely subjective and consequent on the direct stimulation of the special nerves of temperature, those usually cognizant of cold being far more sensitive to its influence than were those adapted to receive impressions of higher temperatures.—*British Medical Journal*, August 21, 1886.

Acquired Alterations in the Elasticity of the Larger Bloodvessels.—Israel has experimented upon the elasticity of the vessels in health and disease in the following manner: Pieces of the aorta, homologous in size and point of origin, were appropriately suspended, and the degrees of extension produced by the application of given weights were noted.

As the result of the study of fifty such preparations it was seen that the elasticity (or, more strictly speaking, extensibility) was most marked in the vessels of the chlorotic of both sexes, and was less pronounced in nephritics and especially in drunkards. The diminished elasticity of the vessels in the class last named is regarded as explanatory of the not infrequent sudden deaths in this class, with negative results on post-mortem section.—*Centralb. f. klin. Med.*, Sept. 18, 1886.

Posology of some of the Newer Remedies.—The *Rundschau Leitmeritz*, which is, by the way, one of the best of the German pharmaceutical journals, gives the following information concerning the dosage of the remedies which have come into general use since the last edition of the *Pharmacopœia:*

Osmic acid: Best administered in pill form (made up with Armenian bole). The dose is $\frac{1}{60}$th grain, which may be repeated several times a day.

Agaracine: Best administered in combination with Dover's powder. Dose $\frac{1}{12}$th to $\frac{1}{4}$th grain.

Aloin: From $\frac{1}{8}$ of a grain to $3\frac{1}{2}$ grains, in pill form.

Antipyrine: Dose from 75 to 90 grains, divided into 3 portions, one of which is to be taken every hour.

Bismuth salicylate: Dose from 5 to 7 grains, in pill form. In typhoid this dose may be doubled and repeated every hour, up to ten or twelve times.

Canabinone: From $\frac{3}{4}$ to $1\frac{1}{2}$ grains. Best administered mixed with finely ground roasted coffee.

Caffeine: To commence with, the dose should not be over 3 grains, but this may be repeated every hour until four doses are taken, or say 12 grains *per diem*. This may be increased to double the amount mentioned. The *benzoate of sodium and caffeine* is a double salt which contains one-half its weight of pure caffeine. It resembles the *salicylate of sodium and caffeine*, but the latter contains more caffeine (10 parts of caffeine to every 16 parts of the double salt).

Colocynthin: Used subcutaneously. The dose is from $\frac{1}{8}$ to $\frac{1}{4}$ grain. It may also be administered in pill form by the mouth, the requisite dose being from $\frac{1}{2}$ to 1 grain.

Convallamarine: Internally, in pill form. The dose is from $\frac{3}{4}$ to $1\frac{1}{4}$ grains, and it may be repeated every hour, until a total of 15 grains is reached.

Euonymin: Best given in pill form, combined with extract of belladonna or hyoscyamus. The dose is from 3 to 10 grains.

Helleborein: May be given in pill, solution, or in suspension in some mucilaginous vehicle. The dose is from $\frac{1}{8}$ to $\frac{1}{4}$ grain, repeated four or five times in the course of a day.

Tannate of mercury (protoxide) may be given in a wafer. The dose is $1\frac{1}{2}$ grains repeated thrice daily.

Nitroglycerine is best given in alcoholic or oily solution. The dose is from $\frac{1}{350}$th to $\frac{1}{60}$th grain, repeated several times a day. Rossback prefers ether as a solvent. His formula for its use is as follows: Dissolve $1\frac{1}{2}$ grains of nitroglycerine in sufficient ether, and add the solution to a mixture consisting of two ounces of powdered chocolate and one ounce of gum-arabic. Mix very thoroughly and divide into 200 pastilles. Each pastille will thus contain $\frac{1}{133}$d grain of nitroglycerin.

Picrotoxine: In aqueous solution. Dose from $\frac{1}{8}$ to $\frac{1}{6}$ grain.

Sulphate of thalline may be given dissolved in wine or water (with some corrigerant). The dose is from 4 to 8 grains.—*St. Louis Medical and Surgical Journal*, October, 1886.

Thymol as a Tæniafuge.—Dr. Numa Campi records as follows the experience of himself and of Dr. Vanni in the use of thymol or thymic acid as a tæniafuge:

Dr. Vanni, in the first case of tænia treated by thymol, gave three grammes (gr. xlv) in divided doses through the day, and twenty grammes (℥v) of castor oil at night, but succeeded in obtaining only five or six segments of the worm. On the following day, however, he administered six grammes (℥ iss) of thymol, divided into twelve doses, to be taken every fifteen minutes, and at the end of the third hour the entire worm, including the head, was expelled.

I adopted the following method with my first case: In the evening I ordered twenty grammes (℥ v) of castor oil to be taken fasting; in the morning I prescribed eight grammes (℥ ij) of thymol, divided into twelve doses, one to be taken every quarter of an hour; twenty minutes after the last dose had been swallowed, another twenty grammes (℥ v) of castor oil were taken. A few minutes after, a tænia medio-canellata three and a half metres in length was evacuated, the head being dead. To be sure, I had no Shultze's table with me to prove that there was no movement, but I touched the worm repeatedly with a hot coal, and observed no sign of life.

It is very important during the administration of the thymic acid, to give the patient some cordial and stimulant; cognac, or rum, will be found suitable. Thy-

mol is very depressing, according to the experiments of Husemann, and this will explain its action on the nervous system. Even with small doses, the pulse becomes small and frequent, the respiratory movements slow, and the temperature is lowered. These effects, however, are easily and promptly counteracted by the use of stimulants.

I must call attention to another fact. Husemann and Lewin say that thymol should be administered in small doses. On account of its caustic action, they claim that there is danger of producing digestive disturbances and gastro-enteritis. They recommend two or three teaspoonfuls of a one-half per cent. solution during the day. While it is true that we can never be too prudent in the practice of medicine, these doses are too fearfully homœopathic, when we consider that eight grammes of thymic acid may be given in two hours and a half without producing the least gastro-intestinal disturbance.

The use of thymol is advocated for the following reasons:

1. Because this remedy, with the exception of a depressing effect, easily counteracted, produces no disturbance of the stomach or intestines.

2. On account of the rapidity and simplicity of its action, compared with other remedies, which require *courses of treatment*, divided into three periods, the preparatory, the expulsive, and the consecutive.

3. On account of the advantages it offers of being both a tæniacide, and a tæniafuge.

4. Because in case of an error of diagnosis the remedy would produce an efficient purgation and disinfection of the alimentary canal.

5. Because it is reasonable to suppose that since thymic acid succeeds in expelling the tænia medio-canellata, the worm which above all others resists the action of anthelmintics, the same remedy will be of service in expelling all other varieties of flat worms.

6. Because we have, as yet, always been successful with the use of thymic acid, and have probably found a real specific, which, up to the present, did not exist.—*Buffalo Medical and Surgical Journal*, October, 1886.

THE LOWER LIMIT OF THE PLEURA.—MR. W. ARBUTHNOT LANE presents in *The Journal of Anatomy and Physiology*, April, 1886, an interesting paper upon "Some Variations in the Human Skeleton." Mr. Lane observes that the lower limit of the pleural cavity behind can be determined clinically by measuring the lower ribs, and especially the twelfth. It will be found that if the twelfth ribs are under two inches in length, the pleura may not even reach their upper margin, or, at the most, it may extend but a little way over the inner half of their anterior surface. As the length of this rib increases, the pleura extends still lower down, and in some instances it may reach a point an inch and a half below the lower border of the rib. If the last rib be over two inches in length, the lower limit of pleura crosses it obliquely at its centre, so that it bears a direct relation to the length of the rib. This relationship of the pleura to the length of the last rib shows that there need be no risk of opening this cavity in the ordinary operation of lumbar nephrectomy.

As to the extent of the pleural cavity laterally, Mr. Lane finds—taking the average of a number of cases—that the lower limit of the pleura crossed the seventh costal cartilage obliquely, about three quarters of an inch below its articulation with the rib, then the end of the eighth rib, or the cartilage immediately below it, the ninth rib a quarter of an inch above its extremity, the tenth rib three-quarters of an inch, and the eleventh one and a quarter inches from its outer end. In the axillary line, which is at least sometimes defined as a line passing vertically down from the head of the humerus, Mr. Lane found that in the large majority of cases the lower limit crossed the tenth space or the eleventh rib, not unfrequently lower on one side than on the other, but not much more frequently on one side.

TETANUS RESULTING FROM THE HYPODERMATIC INJECTION OF QUININE.—RUBINO records a case of miliary fever in a six year old girl, in which after several days' exhibition of quinine by the mouth and by enemata, he administered the drug subcutaneously. At the end of a month the child was wholly free from fever, but complained of pain in the left arm at the point of introduction of the last injection. Three days later trismus and tetanus appeared. Death on the sixth day.

The author regards the case as essentially one of traumatic tetanus.

Analogous cases of tetanus from the hypodermatic injection of quinine are recorded by Oderaine (*Gazette Hebdomadaire*, 1872), Bortolazzi (*Gazz. degli Ospitali*, 1884, No. 80), and Roberts (*Lancet*, 1876).—*Centralb. f. klin. Med.*, September 18, 1886.

THE ANALGESIC ACTION OF CARBOLIC ACID AND THE CRESOL GROUP OF COMPOUNDS.—DR. MCNEILL has made some experiments on himself and others with carbolic acid and the cresols to determine whether their local anæsthetic influence can be utilized. He finds that a mixture of 60 parts of acid and 40 of oil renders the skin of the arm insensitive to pain caused by superficial incisions. It produces, however, a sensation of heat, but this can be removed without any interference with the anæsthesia by the application of glycerine.

A mixture of glycerine and acid will have the same effect as the oil and acid, but only if twenty per cent. stronger. Impure carbolic acid having appeared more effective as a local anæsthetic than the absolute phenol, Dr. McNeill tried the effects of several of the substances allied to carbolic acid which are produced in the distillation of coal. Several of these, as benzol and toluol, had no effect. A mixture of ortho- and para-cresol (sold as cresolene) was found to have a similar effect to carbolic acid, but was not so powerful. Paracresol, on the other hand, acted more powerfully, equal parts of this substance and oil producing anæsthesia.

It is worthy of note that whilst analgesia is produced the sensation of touch remains, and that the deeper parts may be opened painlessly by introducing some of the anæsthetic compound into the tissues laid open.

Dr. McNeill records some cases in which he performed minor operations without pain by the aid of carbolic acid or cresol. No sloughing or other trouble followed their use.

As a mixture of glycerine and carbolic acid is a less powerful corrosive than a mixture of oil and acid, Dr. McNeill suggests that glycerine should be administered in poisoning by carbolic acid instead of oil.—*Med. Chronicle*, July, 1886.

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SATURDAY, OCTOBER 23, 1886.

PERFORATING APPENDICITIS.

THE clinical and pathological studies of the past twenty-five years have led to remarkable improvements in the methods of treating the various affections of the cæcum and appendix; still, the anatomical relations are so uncertain, the symptoms often so complex, and the causation so varied, that the precise localization of the disease may be obscure, and the indications for treatment doubtful. In the *American Journal of the Medical Sciences* for October, 1886, FITZ contributes an exhaustive study of this subject under the title of "Perforating Inflammation of the Vermiform Appendix; with Special Reference to its Early Diagnosis and Treatment;" and his investigations give us a clearer knowledge of the exact relation of inflammation of the cæcum and appendix to peritonitis and perityphlitis.

The term typhlitis is usually employed to designate inflammation of the appendix and of the cæcum; perityphlitis when the peritoneum in the neighborhood of these parts is involved; and paratyphlitis when the connective tissue behind the cæcum is affected. As in the great majority of the cases of fatal typhlitis the appendix is ulcerated and perforated, the term perforating appendicitis is most appropriate. The result may be either a circumscribed peritonitis, or paratyphlitis. The anatomical relations of the part determine which of these conditions will prevail, for the appendix may be either surrounded by peritoneum and free in the cavity, or, as is not infrequent, it may be entirely behind the serous layer, which may, however, be involved by contiguity. Fitz has collected 257 cases of peforating inflammation of the appendix, and has carefully analyzed every symptom. For comparison, he has also collected 209 cases of typhlitis and perityphlitis from other causes.

The well-known etiological importance of inspissated fecal masses and foreign bodies in inflammation of the appendix is borne out by the fact of their presence in three-fifths of the cases. The proportion is doubtless larger, as in many cases the fecal concretion or foreign body is lost in the discharge, or, as in an instance reported in *Revue de Médecine*, for June, the concretion may pass in the feces. Strain, as in lifting, was recorded as preceding the attack in 19 cases. Digestive disturbances—constipation, vomiting, or diarrhœa—were present in 30 cases of appendix inflammation and in 53 of the instances of typhlitis and perityphlitis from other causes. Tuberculous and typhoid ulcers play a less important part in the etiology of perforative disease of the appendix, as there were only 8 instances of the former and 3 of the latter. A percentage of eighty illustrates the special liability of the male sex to this affection, and seventy-six per cent. of the subjects of the entire list were under the age of thirty years.

The recurrence of attacks of appendicitis is well recognized, and eleven per cent. of the cases had presented similar symptoms of greater or less severity before the final attack.

The course and results of the inflammation show remarkable variations. The frequency with which the tube of the appendix is found to be obliterated, in a greater or less extent, points to recovery as a common sequence of appendicitis. When perforation occurs, the result will depend on the position of the tube. A circumscribed peritonitis is probably the most common sequence, and the contents of this peritoneal abscess may become absorbed or may escape into the general peritoneum. Perforation externally, or into the rectum or bladder, may occur, and in one instance the abscess burst into the small intestine, ulcerated an artery, and caused death from hemorrhage. When the appendix lies behind the peritoneum, the inflammation of the connective tissue speedily forms an abscess, which may attain large size and perforate externally in the groin, in the lumbar region, or at the navel. In some of these instances the destruction of tissue is extensive, and the pus may pass downward as in psoas abscess, or upward into the pleural cavity.

The symptoms of the affection have been very carefully analyzed by Fitz. Of these the first and most constant is a sudden, severe abdominal pain, which was present in 84 per cent. of the cases, and in 48 per cent. was localized in the right iliac fossa. This sudden onset may occur in apparently healthy individuals, or may be preceded by diarrhœa. Doubtless, in most instances, it coincides with the perforation, or it may represent the separation of the fresh ad-

hesions of an acute appendicular peritonitis; often it precedes the manifestation of a more general process. In 61 cases, in which it was possible to determine the date of occurrence of this important symptom, it occurred in 67 per cent. on the first day, in 8 per cent. on the second, and in 20 per cent. on the third. Nausea and vomiting are often induced by the great pain; constipation is usually present. Fever very constantly follows, but the range is rarely high. The appearance of a circumscribed swelling is of the utmost value in diagnosis, and it has its usual seat "in the right iliac fossa below a line extending from the anterior superior spine of the ilium to the navel, nearer the former, and two finger-breadths above Poupart's ligament." It represents the accumulation of the exudation, which, at first scanty and fibrinous, may in two or three days form a large purulent deposit. Dulness may be obscured by adherent coils of intestine, or the abscess may be gaseous. The pain on pressure and tenseness of the abdominal muscles may necessitate the use of ether to make a satisfactory examination. Even when a positive tumor is not palpable there is a circumscribed resistance and, later on, a sense of fluctuation. This symptom usually appears so late as to be of very little use in diagnosis. The onset of diffuse peritonitis is indicated by general abdominal pain which, in the largest number of cases, sets in on the second, third, and fourth days. This complication is almost invariably fatal. In 176 cases in which the day of death was noted, 50 per cent. occurred in the first week, 31 per cent. in the second week, and 4 per cent. in the third week.

Perforative appendicitis is most likely to be confounded with stercoral cæcitis, a condition not uncommon as a result of protracted constipation. The pain in this affection is slight, the fever mild and delayed, and the tumor, which can be felt, is an elongated, nodular or doughy mass. Perforating disease of the cæcum is very rare. A careful consideration of the symptoms and mode of onset will usually suffice to make a diagnosis between appendicitis and intestinal obstruction, pelvic peritonitis, and renal or biliary colic.

The termination in resolution of a perforating appendicitis is rare, and we have no evidence of the proportion of cases in which it occurs. In typhlitis and perityphlitis from other causes it is more frequent, and in 180 cases of this kind there terminated by resolution 58, by spontaneous evacuation 33, while 89 cases were opened surgically. The treatment of this affection has been too much in the hands of physicians, and in too many cases there is an unjustifiable delay while waiting for the more definite signs of suppuration. If good is to be gained by an operation the earlier it is done the better chance has the patient for recovery. Fitz very correctly states that if, after the first twenty-four hours from the onset of the severe pain, the peritonitis is evidently spreading and the condition of the patient is grave, the question should be entertained of an immediate operation for exposing the appendix and determining its condition with reference to its removal. The fact that 34 per cent. of the cases died during the first five days justifies operating at the earliest possible period, and of late surgeons have interfered as early as the third day. Laparotomy is called for in a majority of the cases, as by it alone the condition of the parts can be accurately ascertained.

The carefully collected facts in Fitz's article will materially assist in the diagnosis of this grave disease, and will embolden surgeons to practise an early operation which can alone, in many instances, give the patient a chance of recovery.

NOXIOUS OR OFFENSIVE TRADES.

THERE is a demand for systematic inquiry into dangerous and offensive processes of trade with the view of determining the appropriate means of preventing a nuisance or injury to health therefrom. It is a well-known fact that workmen suffer in their health from a variety of influences connected with their occupations, and we are accustomed to speak, in a general way, of the diseases thus caused as industrial diseases. It is not difficult to prove that the processes of certain trades are offensive and an annoyance to the neighborhood, but it is not so easy to demonstrate that their effects are injurious to health. Nevertheless it may be stated upon general principles that whatever pollutes the air we breathe, or the water we drink, tends to impair health and calls for the intervention of the restraining power of the law.

Sanitary supervision should take cognizance of the health of the workmen and also guard the public from the influences of such industrial processes as interfere with the comfort and tend to jeopardize the health of the community.

In the prevention of diseases arising from industrial labor the coöperation of the employer and employed is indispensable. Both are equally concerned in the labor of prevention, and more can be accomplished by their coöperation than by local authoritative action, though the latter has its salutary influence. The buildings, appliances, and manner of conducting the work should be arranged with the view of affording the greatest possible protection to the workmen. Personal cleanliness and thorough ventilation of the workshops are among the most important measures of safety.

The duty of the employer, however, is only half performed when he has provided means for the protection of his workmen; the obligation also rests upon him of providing the means of preventing the

escape of noxious or offensive fumes or gases into the atmosphere, or the pollution of streams which may be used as the source of water-supply, an obligation which, unfortunately for the public, is oftener violated than fulfilled. Nuisances of this description are frequent and constitute one of the most perplexing subjects with which a health board of a large town has to deal. It is not because the methods of prevention are difficult of discovery and application, for human ingenuity is adequate to the task; but the manufacturers fail to interest themselves in that which concerns them less than the public generally, and object to the expense of apparatus and appliances not essential to their processes of manufacture, though necessary to protect the people in the enjoyment of their right to pure air and uncontaminated water.

Ordinarily, the sanitary law provides the remedy for nuisances of this description which are more or less directly or indirectly injurious to public health, and designates the proceedings to be taken under its provisions; but the administration of the law often fails in the accomplishment of its intended purpose. It frequently happens that when complaint is made against an establishment by reason of the escape of nauseous or injurious vapors or gases, an attempt is made to antagonize interference by the use of petty subterfuges and artful temporizing too well known to the manufacturer. Influence, which has a mighty sway, is made to do valuable service in thwarting any effort made to abate the nuisance.

The suppression of the objectionable processes is construed as a suppression of the business itself, and the effort of the sanitary authorities to correct the evil is paraded as a menace to the trade and business of the town. The result is too often a withdrawal of the proposed corrective measures or the adoption of some temporary expedient savoring of compliance with the law, while the public continue to submit to the evil. The remedy for such abuses lies in adequate laws based upon the results of thorough scientific investigation, and their intelligent, impartial, and resolute enforcement. In framing such laws the interests of the manufacturer as well as of the public should be zealously guarded, so that, while protecting the one, the other shall not be needlessly sacrificed.

TREATMENT OF HERNIA OF A MUSCLE.

This uncommon lesion consists in the protrusion of a portion of muscle through a rupture in its containing fascia. Two cases of this sort having recently come under the care of Giess, and he has made them the subject of an interesting communication in the *Berliner klinische Wochenschrift*, No. 11, 1886. The first case was that of a man who had a hernia of the tibialis anticus muscle caused by a blow with a stone. Palliative treatment by means of strapping and bandaging did no good, and Giess cut down on the hernia and removed the protruding portion of the muscle with scissors. After a few days the hernia had disappeared and suppuration came on. Giess then cauterized the protrusion repeatedly with nitrate of silver. The result was unsatisfactory as the hernia persisted, although it was reduced in size.

In the second case a similar tumor was treated by incision, removal of the protrusion, freshening of the edges of the opening in the fascia, and suturing of the fascia with catgut. The superficial wound was also sutured, and the limb confined in a plaster-of-Paris dressing. The result of this operation was perfectly satisfactory. The wound healed by first intention; the plaster dressing was removed on the sixth day, and on the twenty-first day the patient left his bed with a solid cicatrix, and in a few days had full use of his leg.

The method adopted in this case seems rational, and the success which followed its employment by Giess confirms this impression.

A curious mixture of bad pathology and good surgery is presented by a case reported in the *Virginia Medical Monthly*, for October, by Dr. Wilkerson, under the following startling caption: "Incision into the pelvis of the kidney and treatment topically through the drainage tube, for the cure of Bright's disease." The patient, a man aged thirty, had received an injury of the back, and six months after began to fail in health, became emaciated, had hectic, and passed blood and pus in the urine. Deep palpation on the right side gave an indistinct sense of fluctuation. Lumbar nephrotomy was performed, over a pint of matter was discharged, the sac was swabbed out, and a drainage tube inserted. The man made a good recovery. The case was evidently one of pyelonephrosis, and the treatment pursued most judicious and successful. It is remarkable how deep-rooted is the idea that all affections of the kidney belong to Bright's disease; fortunately for the patient, the doctor's surgery was at least half a century in advance of his pathology, and it is a pity that the report of so interesting a case should be marred by a title both misleading and erroneous.

Last Wednesday week Prof. S. W. Gross, at the Jefferson Medical College Hospital, performed nephrolithotomy upon a man who had for years suffered with pain in the region of the kidney, accompanied by occasional attacks of hæmaturia, and the presence of a few red blood corpuscles, and an abundance of oxalate of lime crystals in the urine, together with strings of mucus and epithelial cells

from the pelvis of the kidney. From a careful study of the symptoms of the patient, Dr. Gross diagnosticated an oxalate of lime calculus in the left kidney, and proceeded to an operation which completely verified his opinion. The calculus was removed through an incision below and parallel to the twelfth rib, and was found to be about the size and shape of a flattened acorn. The patient is now doing well, and there is every prospect of his speedy recovery. We hope, in due time, to present a full report of the case.

REVIEWS.

THE ANATOMY OF THE INTESTINAL CANAL AND PERITONEUM IN MAN. By FREDERICK TREVES, F.R.C.S. The Hunterian Lectures for 1885. Vellum, 4to. pp. 66, pl. iv. London: H. K. Lewis, 1885.

IT is not given to every man in these days to make a study of the gross anatomy of the human body, and yet add materially to our knowledge. But this beautiful edition of Mr. Treves's Hunterian Lectures proves that it will be given to every man who will devote equally patient painstaking labor to his subject. The lectures are based on the dissection of one hundred bodies, in which the abdomen was opened, and every part labelled and drawn, and studied *in situ*, and then after removal. We cannot go over, as we would like to, every error the author points out, and every new fact he states, but can only indicate a few.

The length of the bowel seems independent of height, weight, etc., and, curiously enough, in women it is in the average longer than in men. We have long known that the gentler sex had more "bowels of compassion" than we men, but as to "bowels of digestion and absorption," we should have sworn that we were the better furnished. The holes in the mesentery, he shows are undoubtedly due to atrophy; the pelvis contains not only coils of the ileum, but of the jejunum, and not seldom a portion of the transverse colon; the various forms of cæcum he classifies under four types; the sigmoid flexure he shows to be chiefly pelvic (as indeed also is the cæcum), and omega-shaped; and he explains why in about four per cent. of subjects the surgeon attempting to reach the ascending colon by lumbar colotomy will miss the bowel, because it is not in its accustomed place.

These are but a few points in a hasty *résumé* of the many valuable facts and applications with which the author favors his interested readers.

Mr. Treves writes so well that we shall be disappointed should he find increasing professional work interfere with his literary labors.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON NEUROLOGY.

Stated Meeting, October 8, 1886.

THE CHAIRMAN, L. PUTZEL, M.D., IN THE CHAIR.

DR. JULIUS ALTHAUS, of London, a Corresponding Fellow of the Academy, read a paper on

SOME POINTS IN THE PATHOLOGY AND TREATMENT OF PARAPLEGIA DEPENDENT ON POTT'S DISEASE.

He commenced by relating the detailed history of a case. The patient was a florid-looking girl, of twenty, who lived out at service. She had enjoyed good health from early childhood. She had never had any scrofulous affections of the glands or other parts, and there was no phthisis in her family. Moreover, she had never, so far as she knew, received any injury to the spine. Two years before she came under observation, she suffered from an attack of rheumatic fever; but, on recovering from this, she went back to service. Nine months later, however, she began to suffer from severe pain in the right foot, which was soon followed by marked loss of power in the right leg. Eventually this was followed by pain and paralysis in the left leg also. She then became confined to bed, and for a considerable time was treated in a provincial hospital, without any benefit.

When she came under Dr. Althaus's observation an examination showed that there was almost complete paralysis from the hip-joint down, on the right side, and less marked paralysis in the left limb. On applying the faradic and galvanic currents, responses were obtained with unusual facility. The superficial reflexes were also unusually brisk; and the same was true of the deeper reflexes as well. There was no history whatever of spontaneous cramps or of muscular rigidity. There were more or less coldness, lividity, and clamminess about the foot and instep. The different forms of sensation in the entire limb were perfectly normal. The left side was in all respects less seriously affected than the right.

A distinct prominence of two of the dorsal vertebæ was clearly recognizable. There was no pain in the spine, and no increase of temperature; but the mobility of the spinal cord was much impaired. The commencement of the deformity, it was ascertained, had been coincident with that of the pain and paralysis fifteen months before. The catamenia were regular, and the nutrition of the patient well preserved.

It seemed evident that there was more or less thickening of the spinal dura mater, and that in the cord itself there was interstitial myelitis present. The posterior columns were also implicated, as shown by the neuralgia that had existed so long; but it was probable that the central portion of the spinal cord was normal. She was placed on the iodide of potassium and cod-liver oil, with complete rest and frictions with liniments, etc.; but at the end of three months no improvement whatever was noted. At the request of Dr. Althaus, Mr. Pearce Gould then made an application of the actual cautery to the side of the spine and within a few days the patient was perceptibly better. The application was made four times in all, and the patient continued rapidly to improve. In a short time she was able to walk about as well as ever, and the vasomotor disturbances, shown by the coldness, lividity, and perspiration about the ankle, disappeared. The patient was then discharged practically cured, and entered a convalescent hospital for a time.

Patients suffering from paralysis due to Pott's disease, continued Dr. Althaus, have sometimes recovered by the opening of an abscess, and it cannot be doubted that the powerful counter-irritation resorted to in this

instance had brought about a cure by its effect upon the diseased structures involved. While the pain in the foot and leg had been very marked, there had never been any pain in the back. The former appeared to have resembled the lightning pains observed in progressive locomotor ataxia. He believed that this pain was due not to pressure on nerves or inflammation of the dura mater, but to irritation of the posterior columns of the spinal cord. The symptoms of coldness, lividity, and perspiration of the foot and instep showed that there was present some degree of vasomotor paralysis also. It was plainly caused by central disturbance.

Formerly it was supposed that paralysis occurring in Pott's disease was due to an actual destruction of the substance of the spinal cord; but if this was the case, recovery, which is so often noted, would be impossible. He deprecated the views of Shaw as to the causation of paralysis in these cases. In many cases of Pott's disease the entire cord suffers some amount of pressure, which gives rise to paralysis. Vulpian has shown by experiments on animals that paraplegia can be produced and removed at will by setting up and withdrawing pressure upon the cord, the paralysis being motor in character with no loss of sensation. But this simple form of paralysis is not all. Charcot and others have shown that there is habitually inflammation of the external layers of the spinal cord. Interstitial myelitis seems to be always present also. In the case related there can be little doubt that the coarser pyramidal fibres were affected by either myelitis or degeneration, probably the former.

How, continued Dr. Althaus, shall we explain the fact that while there was almost complete motor paralysis, especially on the right side, there was no loss of sensibility? This is a point which has not been hitherto satisfactorily explained, and is worthy of careful study. There are three different degrees of pressure upon the cord met with in cases of Pott's disease. In the first there is no pressure exerted upon the actual structures themselves. We have all seen cases in which there was considerable deformity, but no paralysis. The reason of this is that the pressure is just sufficient to displace the spinal fluid, but it does not extend to the cord itself.

The second degree is that which existed in the case under consideration. Here there was not only displacement of the spinal fluid, but also interstitial myelitis. In these cases of paralysis resulting from Pott's disease motion is more easily lost than sensation. There is not a single case of Pott's disease on record in which there has been paralysis of sensation without that of motion, while we constantly meet with the reverse of this—paralysis of motion without that of sensation.

The third degree of pressure is met with in those cases in which we have to do with complete transverse myelitis, implicating not only the columns, but the gray matter of the centre of the cord as well. In connection with this, we find anæsthesia and analgesia, with paralysis of the bladder and rectum, and a tendency to bedsores. In such cases, on account of the profound organic changes which have resulted from the pressure, recovery is impossible. It is important, therefore, that we should resort to the actual cautery at an early period in cases of Pott's disease in which paralysis results, in order to prevent the pathological process in the cord from going on to this advanced stage.

The conclusion of the paper was devoted to some consideration of the actual cautery. During the first half of the present century, he said, this means of counter-irritation was universally and indiscriminately used in all forms of spinal disease. During the first twenty years of the second half of the century, however, a reaction set in, and it was employed less frequently and more intelligently. Dr. Althaus said that, personally, he now never thought of resorting to the actual cautery in spastic spinal paralysis, tabes dorsalis, or other diseases of the cord proper, but that he had always found it of the greatest service in disease of the membranes.

DR. V. P. GIBNEY said that he had been much pleased with the clinical picture which the distinguished visitor had presented, and also with the admirable manner in which he had connected the various symptoms observed with the pathological conditions undoubtedly present. The case detailed was one of great interest, and he thought that the point in regard to the service rendered by the actual cautery was well taken. This agency, however, is not the only means at our command for securing benefit to the patient. He had seen a large number of similar cases perfectly relieved within a week by the simple application of a jury-mast. Some time ago Dr. Charles J. Poore, of this city, read a paper in which he related a number of cases in which he was able to report very good results in the treatment of Pott's disease by the actual cautery. Afterward, however, he was much disappointed in its use, as the results in other cases were entirely unsatisfactory.

The author of the paper had cited but a single case, and though in this particular instance the method was eminently satisfactory, he did not think this was sufficient to prove its applicability in general. Personally, he believed the actual cautery to be objectionable, and particularly in the case of children. Although it is the present custom to apply it very lightly, as compared with the former practice, it is impossible to persuade patients that it will not hurt, and both the mothers and the children object very strongly to its use. Of course, this objection applies principally to private practice.

He thought, as Dr. Althaus had pointed out, that the cases which improve belonged not to the third stage, but to the neuralgic class of cases. He had a number of times applied the actual cautery in such instances, just as soon as any symptoms of paralysis showed themselves, but without securing any relief. When, however, he had stopped its use, and had resorted to suspension, and the application of a jacket, the patients got well. In these cases he was strongly in favor of giving large doses of iodide of potassium—say sixty, seventy, or eighty grains three times a day to a child. The objections to the use of the iodide in adults did not hold good in regard to children, with whom it almost always seems to agree perfectly, and who often grow fat upon it. With the iodide, and a jacket to support the spine, he had obtained better results than in any other way. The theoretical part of Dr. Althaus's paper he thought admirable.

DR. SACHS said he agreed with the author of the paper that interference with motion is much more common than with sensibility. With regard to the treatment, he had no doubt that the actual cautery is efficient in certain cases; and yet in the one related by Dr. Althaus, he was inclined to doubt whether the credit for the cure should be given to this procedure entirely. Thus, in

addition, the patient was given complete rest and treated with cod-liver oil and other tonics. He had seen cases cured by complete rest alone. The same was true of many cases of chronic myelitis, and he called to mind particularly one case of post-puerperal paraplegia. He did not wish to discredit the treatment by the actual cautery, but it seemed to him that the other measures adopted were of considerable importance in bringing about the satisfactory result noted.

DR. L. PUTZEL said that he had had a few cases in which the results were similar to those obtained by Dr. Althaus in the case reported in the paper. In three instances the improvement was so rapid after the application of the actual cautery that no reasonable doubt could be entertained as to its efficient agency. In the larger number of cases, however, this procedure was entirely without beneficial results. As to large doses of iodide of potassium, as recommended by Dr. Gibney last year, he had found in his experience that these also were without effect. He agreed with the last speaker that, after all, time and rest are the most successful remedies. Good feeding, however, is a matter of great importance also.

With regard to the absence of anæsthesia in these cases, it seemed to him that the explanation presented in the paper was a very plausible one. It certainly seemed to be a fact that there is some quality about sensory fibre which makes it resist pressure much more efficiently than motor fibre.

DR. ALTHAUS in closing the discussion said that the good effect produced by very large doses of iodide of potassium, as claimed by Dr. Gibney and others, was a very interesting matter, and that on his return to England it would give him great pleasure to test practically the efficacy of the treatment. It had been assumed that the rest and other treatment, beside the application of the actual cautery, had had much to do with securing the good result noted in the case which he had narrated. But this he believed was not the fact. For four months in the provincial hospital, and for three months after, when she came under his own care, the patient had been treated with complete rest in bed, and in addition she had been taking cod-liver oil and iodide of potassium, the latter in thirty grain doses three times a day. And yet no effect whatever was produced—the patient remained in precisely the same condition, without the slightest improvement. As soon, however, as the first application of the actual cautery was made (within less than ten days) a marked improvement in the paralysis commenced; and this rapidly became more and more marked under the repeated use of the cautery. Before resorting to this measure he had wished to give the rest treatment a thorough test, and as it was attended with no improvement, while from the first the improvement was marked under the use of the cautery, he thought that he was fully justified in attributing the cure to this particular method of treatment. There were, no doubt, cases in which the cautery had failed; but it seemed to him that in these instances the disease was probably more advanced. He inquired whether there was not some loss of sensibility, as well as motion in such cases? In conclusion, he said that his reason for bringing this subject before the Section was to induce surgeons to resort to the actual cautery at as early a period as possible.

DR. GRAEME M. HAMMOND read an elaborate paper on

ATHETOSIS, WITH REMARKS ON ITS PATHOLOGY.

In speaking of the treatment, he said that this affection, being dependent on certain irremediable organic changes in the brain, it was impossible ever to produce a cure. At the same time, there were certain measures which, in some instances at least, had been attended with marked relief, and sometimes had abolished all symptoms of the trouble for a considerable period. He referred in detail to four cases, one of which, reported by Gowers in 1876, had been treated with galvanism, and the remaining three of which had been treated with nerve-stretching. The most interesting of these was the original case of Dr. William A. Hammond, upon which his description of the disease (which is mainly characterized by an inability to retain the fingers and toes in any position in which they may be placed, and by their continual motion), published in 1871, was based. This patient was also a confirmed epiliptic. In 1882 Dr. G. M. Hammond stretched the median nerve very forcibly; after which both the epilepsy and athetosis disappeared for three months. At the end of five months, however, they were as bad as ever. At the time of the operation the nerve was in an apparently perfectly healthy condition. In 1884 the same operation was repeated, and the nerve still appeared normal. After this the patient remained well for about four months, but in eight months was again as bad as ever.

In 1885 the operation was again repeated, and this time the nerve appeared to have lost its healthy character, and, after the stretching, instead of promptly rebounding to its position, it hung in a loop outside of the wound. The result of the operation, however, has been more satisfactory than either of the others. A year and four months have now elapsed since it was performed, and there has been no return whatever of the athetosis; the muscles of the hand, arm, and foot, all being perfectly under the control of the will. The patient, however, still has an occasional epileptic seizure (perhaps once a month), and he is the subject of that interesting feature sometimes characterizing epilepsy, double consciousness. This state of oblivion to former events sometimes lasts for four days at a time.

Dr. Hammond said that he believed that nerve-stretching yielded better results than electricity, or any other method of treatment in athetosis. He was unable to say precisely how stretching the median nerve of the arm affected the leg also; but such appeared to be the fact. Such a procedure could, of course, have no effect on the organic changes in the brain giving rise to the athetosis; but he thought that it might perhaps have some effect upon the corpus striatum. Dr. Dana had shown that stretching of the sciatic nerve actually stretched the spinal cord as high up as the cervical vertebræ.

Dr. Hammond was able to present the reports of nine autopsies, made by various neurological authorities, in cases in which athetosis had been present during life. In three of these there were well-marked lesions of the corpus striatum; in three, of the optic thalamus; in one or more, of both the corpus striatum and optic thalamus; and in two, of the cortex cerebri. He also referred to a number of authentic autopsies of cases of allied affections, in which the same portions of the brain were the

seat of organic disease. His conclusion was, that athetosis and allied affections are due to lesions of the corpus striatum, optic thalamus, and cortex cerebri, and of those parts alone.

DR. BIRDSALL said that in order to show that athetosis and allied clonic movements are dependent alone on lesions of the gray matter of the brain, it is necessary to prove that the internal capsule is not at all affected in the autopsies referred to. Athetosis so frequently follows hemiplegia, and especially in children, that it seems reasonable to suppose that the motor fibres are affected in it.

DR. PUTZEL mentioned two autopsies which he had seen, which bore upon the subject, and which went to confirm the position taken by the author of the paper. One was in a very marked case of chorea, of twenty years standing, and the autopsy revealed pronounced atrophy of the central convolutions, with descending degeneration down the cord. The other was in a case of pre-hemiplegic chorea. He was glad to find that the author of the paper had not treated athetosis as a distinct disease, but as an affection allied to chorea, hemichorea, etc.

DR. HAMMOND explained that the greater number of the autopsis he had referred to were described with the greatest accuracy, many of them being accompanied with diagrams representing the seat of disease, and that in none of them were the motor fibres implicated in the slightest degree.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, October 5, 1886.

THE PRESIDENT, C. L. DANA, M.D., IN THE CHAIR.

CASE OF CONGENITAL ABSENCE OF THE FACULTY OF COÖRDINATION.

DR. G. M. HAMMOND presented a boy four years of age, brought to his clinic on account of inability to walk. He was born at full term; labor was natural. He appeared to be perfectly healthy at birth, but shortly afterward he became sick, and continued more or less ill for six months. The attending physician diagnosticated colic. Since recovery from this attack the patient has had no sickness. The special senses were normal. The patient understood as well as other children of his age. Perhaps he did not speak as plainly as he should, but two other children in the family, perfectly healthy, talked in the same manner. There was no history of syphilis. The patient was well formed; the muscles of the limbs were well developed for a child who did not walk; muscular reaction to both electric currents was normal; the reflexes were normal. The only apparent reason for his inability to walk was want of power to retain his equilibrium. He could crawl on his hands and knees perfectly well unless he attempted to go very fast, when he would fall, and he always fell toward the right. He could stand holding to a chair, and walk pretty well if held upright. There was also incoördination in the upper extremities. He widened his base in standing. Dr. Hammond had not decided whether there was congenital absence of sensory tract in the cord or cerebellar disease.

DR. JULIUS RUDISCH had seen two similar cases, both in girls, one about eight years old and the other about thirteen. The first was seen some years ago, was under observation but a short time, and his recollection of the case was indistinct, but he was impressed with what he took to be muscular weakness, not simply ataxia, but weakness in the back. The child if sustained could walk well; if not sustained, it would fall like the child presented by Dr. Hammond. The older patient could walk, but in a peculiar ataxic way, and in the position of marked lordosis. The legs were well developed, and for that reason he thought the trouble was in the muscles of the back. The cases were not, in his opinion, congenital locomotor ataxia.

DR. N. E. BRILL thought such cases were not uncommon, especially among idiots. The gait of the boy presented reminded him of the swaying motion of a cat sent Dr. Spitzka by Prof. Wilder. Other actions than walking were natural. Rumpf reported a similar case, and found a rudimentary cerebellum. Dr. Spitzka removed the cerebellum of this cat and found it natural. Dr. Brill thought we had to distinguish in these cases between locomotor ataxia and static ataxia. Dr. Hammond's case appeared to be one of static ataxia due to rudimentary cerebellum.

THE PRESIDENT had found in his case books one in which a provisional diagnosis of infantile ataxia was recorded. The girl, about two years old, was well nourished, large; could not coördinate the hands or feet. In addition there were some forced movements; the head would suddenly plunge forward.

VESICO-GENITO POST-FEMORAL NEURALGIA AND NEURITIS.

DR. LANDON CARTER GRAY read a paper in which he described two cases, seen during the year, of a peculiar variety of neuralgia and neuritis that had not, so far as he had been able to ascertain, been hitherto described. The first patient was a man, aged forty, of good general health but marked lithæmic temperament, subject every summer to quasi-malarial attacks. Hitherto his neuralgia had been gastric or intestinal. He escaped his usual attack this year until July, when the temperature fell in one night 4.8° F., and on the second day following when getting out of bed, the patient felt a sharp tingling pain through the buttocks, perineum, scrotum, tip of the penis, and down the back of both thighs to somewhat above the knee. Some slight smarting was felt in urination. Toward the afternoon the pain began to lessen, but became worse again following a Turkish and Russian bath. The cutaneous pains became violent; the urination scalding. The bladder became paretic; the urine had to be forced into the urethra. For four days the temperature was from 100° in the morning to 102° or 103° in the afternoon, the neuralgic symptoms still existing.

The second case was that of a female, aged thirty-five, seen in consultation with Dr. Burge, September 6th. During the past two years the patient had had a good deal of sciatica, otherwise had had good health. In December last she was suddenly attacked with sharp pain in the buttocks, perineum, labia, and down the back part of the thighs to the knee. There was simultaneous retention of urine, requiring the catheter. Several weeks later, Dr. Burge saw the patient, and found tactile anæsthesia of the buttock, perineum, labia, and the back part of the thighs to just above the

knee. Dr. Gray saw the patient nine months after the onset of the trouble. She then had vesical anæsthesia, and voided urine without her knowledge. Over the area just mentioned, except the labia, which he was not allowed to examine, he found impairment of the tactile, temperature, and pain senses, but slightly less marked near the knee than above. There had never been any motor impairment.

These cases had a clinical interest, because a knowledge that such a neuralgia might occur would make us chary about diagnosticating a central affection, as we might well be inclined in the early stage, especially when there was vesical, motor, or sensory paralysis.

DR. RUDISCH asked whether an examination had been made for prostatitis, which caused symptoms in a degree like those described.

DR. GRAY said the area of distribution of the pain was not like that in prostatitis; besides, the second case occurred in a female.

DR. W. H. THOMSON referred to the case of a woman from the country, a locality said by her physician to be free from malaria. After a prolonged convalescence from an attack of pleurisy, she began to suffer severe pain in the anterior part of the left thigh, and from slight trouble with the bladder; the pains coming on certain days of the week, lasting one day and two nights. This continued five months, when she was free until the following fall. The medicine prescribed by Dr. Thomson had not prevented a return of the singular symptoms again the present fall. There was no indication of sciatica.

ON THE USES OF HYOSCYAMINE.

THE PRESIDENT stated that there are two preparations of the drug, the crystalline and the amorphous. The former seems to be similar in property to the opiates, while the latter seems to have neurotic properties. He had heard that hyoscyamine was employed in the asylumns for the insane in New York, but not very successfully, whereas in the asylums of Pennsylvania its success had been marked. He had employed hyoscyamine in paralysis agitans, in chorea, and in a few cases as a hypnotic, and it had been employed as a hypnotic to a considerable extent in his service at the Bellevue Hospital. The number of cases of chorea in which he had used it was six; in three it was noted to have been of benefit, or caused very rapid or very marked improvement. One of the cases was marked, and had not yielded to other treatment. In three cases the results were doubtful. He had employed it in four cases of paralysis agitans; in two, he thought, with unquestionable benefit. In two it seemed to produce no benefit. On the whole, he thought that unless given at rather an early stage of paralysis agitans it did no good. The form employed in chorea and paralysis agitans was the crystalline, but he was not sure that the amorphous form would not be the better preparation in such cases. He thought we could get along perhaps as well without as with hyoscyamine.

DR. B. SACH'S experience with hyoscyamine had not been very extensive, but he had employed it in a few cases of paralysis agitans, acute mania, and the insomnia accompanying the neurasthenic condition. He had employed only the crystalline form. In contradistinction to what the President had said, that it was best to give it in the early stage of paralysis agitans, he remembered one case in which every other therapeutic agent had been tried without success, when hyoscyamine was administered in about one one-hundredth of a grain doses twice a day, with the effect of making the patient very much more comfortable, and of diminishing somewhat the annoying movements of the hand. In another chronic case it had been of no benefit. He had obtained no effect from the drug administered to allay the excitement of acute mania. It had also been disappointing in insomnia accompanying neurasthenia. It seemed to be of more value against insomnia from mental restlessness.

DR. W. M. LEBZYNSKY said that about eight years ago it was quite fashionable to use hyoscyamine in asylum practice, and he had employed it in chronic mania, acute mania, and epileptic forms of insanity. First he used the amorphous, and later sulphate of hyoscyamine. It was claimed that the latter form was easier absorbed, and produced its effects in smaller doses. The sulphate was also preferred for hypodermatic use, in which manner he had employed it in one-sixtieth of a grain doses. To patients with recurring attacks of maniacal symptoms the drug was given a few days before an expected attack and continued until the attack was aborted.

In a state of exhaustion he would regard hyoscyamine as a dangerous drug to administer, but where there was no objection to its use on that ground he had known it to produce sleep where chloral and morphine had failed. Given to patients subject to epileptiform convulsions before menstruation it seemed to avert the attack. He had given it in small doses in two or three cases of chorea, and thought it produced some benefit.

DR. L. C. GRAY had been using hyoscyamine ever since it had been introduced to the profession, and he must say that for certain purposes there was no drug in the *Pharmacopœia* that he could not better afford to dispense with. The most convenient form was in tablets, each containing one one-hundredth of a grain. In some people hyoscyamine produces serious retention of urine. It might also produce serious results if given to persons whose general strength was below par. In an old gentleman with atheromatous arteries, hypertrophied and feeble heart, one one-hundredth of a grain of hyoscyamine caused a condition of collapse. He knew of one patient suffering from melancholia who was sent to Greenwood by hyoscyamine. He had given it in two cases of chorea, one being an exceedingly violent case, the child finally dying in a convulsion. To that patient he could never give a second dose of hyoscyamine because of the alarming prostration which a first dose would cause. In another case, in which the child had to be held in bed, the drug proved an effective means of restraint, but the child was always found prostrated to a marked degree the next day. In paralysis agitans it had been very useful, and came to be with him a routine treatment. He thought the reason why it had been of more benefit in his practice was that he combined with it some stimulant or tonic to prevent its depressing effect. He gave with it good food, one or two grains of quinine a day, sometimes alcoholic stimulants. He had satisfied himself that it was the hyoscyamine in this treatment that had a restraining effect upon the movements in paralysis agitans.

But it was especially in cases of mental trouble that hyoscyamine was of great benefit. In insanity with symptoms of hallucination, especially in the early stage before the patient could be taken to an asylum, hyoscyamine would do much toward restraining a patient, and, it would seem, aided in cutting short the disease. He was very careful to give no more of the drug than was absolutely necessary, and he combined it with bromide of potassium, which increased its effect. He had never seen hypnotic effect from hyoscyamine.

DR. W. H. THOMSON said that his experience with hyoscyamine almost from the beginning rather prejudiced him against it. One of the first cases in which he employed it was that of a judge troubled with insomnia. The next day he was unable to hold court, had bladder symptoms, etc. He found it useful in asthma with considerable dilatation of the right side of the heart, without bronchitis, but a congested state of the lungs. He had employed it in facial neuralgia, headaches, and various neurasthenic conditions, but had nothing definite to say about its effects. One patient with paralysis agitans was benefited by it among many with whom it was a failure.

DR. KELLOGG had used hyoscyamine in cases of mental excitement. It had not proven the sedative he had supposed it would, but it controlled the muscular excitement. He had failed to get any hypnotic effect from it. He had not been favorably impressed with its after-effects in acute mania.

DR. H. S. HINKLEY had found it serviceable in allaying maniacal excitement. Dr. Waitzfelde, of the Pennsylvania Hospital for the Insane, had used bromide of hyoscyamine, and spoke very highly of it.

DR. RICHARDS had given five to seven drops of a one per cent. solution in several cases of insomnia without effect.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, October 18, 1886.

THE PRESIDENT, CHARLES A. LEALE, M.D., IN THE CHAIR.

THE PRESIDENT, DR. LEALE, on opening the meeting, made the following remarks:

Our season for professional activity has returned, and the stern realities are before us of busy metropolitan lives. We may congratulate ourselves that much has been done, but must confess that very much has been left undone, and that even the younger generation is quickly passing away. Let us, therefore, fully equip ourselves for our coming duties, ever with the remembrance that we are in the midst of the most vigorous age of the world's history.

Since we last met, one of our most prominent and beloved associates has departed full of glory, after a life of ceaseless toil and beneficence. I refer to Dr. Frank Hastings Hamilton, who so recently addressed us with his usual eloquence. Although severed from us in body he has given us, in his spirit, a most brilliant example worthy of our highest emulation.

THE DEATH OF DR. FRANK H. HAMILTON.

DR. JOHN SHRADY offered the following resolutions, which were unanimously adopted.

Whereas, It has pleased the Almighty Disposer of Events to remove from the sphere of his usefulness our much respected co-worker, Frank Hastings Hamilton, M.D., LL.D., and

Whereas, The New York County Medical Association desires to express a sense of its bereavement, in common with the many organizations with which he was connected, therefore be it

Resolved, That the fulness of his days has been a record of a well-spent life; and that his work has adorned the surgical annals of America, borne his name beyond the borders of a hemisphere, and added to the solid contributions of medical literature.

Resolved, That as a scholar in his chosen science he has won a place among the worthies of all tongues; and that he has conscientiously weighed all his statements, and given to the world the results of a ripe experience and a most painstaking discrimination.

Resolved, That his professional life has been gauged by the strictest regard for the right—that his loyalty, ever unimpeached, was never expended upon the unworthy, nor his unswerving rectitude ever been challenged even by the captious multitude.

Resolved, That the memory of his many virtues will ever linger with us, and that we tender to his family our sympathies; assuring them that his humanity, his sterling merit, and his valued counsels have not been unappreciated by those who had the honor of association with him.

DR. FREDERIC S. DENNIS read a paper on

SOME POINTS OF SPECIAL INTEREST IN THE TREATMENT OF COMPOUND FRACTURES, INCLUDING A REPORT OF OVER FIVE HUNDRED CONSECUTIVE CASES,

which will appear in full in THE MEDICAL NEWS.

DR. J. W. S. GOULEY said that he did not believe there was a surgeon present who would not most heartily endorse all that had been said. He would, however, say a word in regard to one or two of the points referred to. First, in regard to meningeal hemorrhage, he was fully in accord with the author of the paper as to the propriety of performing explorative trephination. The idea was not new, but it was sound. Whenever there was a doubt as to the existence of such hemorrhage, the patient should have the benefit of this doubt; and he would, like Dr. Dennis, remove a sufficient quantity of bone to enable him to reach the wounded artery and secure it. It was a much better plan, he believed, than to perform the graver operation of tying the carotid artery.

As to malignant disease, he had observed not a few such cases. One in particular which now occurred to him was a sarcoma of the instep, which resulted from injury to the bones of the tarsus. He performed amputation at the ankle-joint, and the patient made a good recovery. Excision of portions of the long bones he had performed with much success for a long time. In one case he removed six inches of the tibia, and reproduction of the bone followed. In the case of a soldier during the late war, who received a gunshot injury of the tibia and fibula, he removed four inches of bone, and put on a plaster-of-Paris dressing. In regard to plaster of Paris, he claimed to have introduced it into the United States, having first applied it during the early part of the war (in the spring of 1861). He had recently heard of the soldier referred to, through a pension examining officer,

and learned that he was alive and well. In these cases he made it a point to remove all the damaged portions of bone.

DR. F. VAN VLEET made some

REMARKS ON ABSCESS OF THE BRAIN, WITH ILLUSTRATIVE CASE.

The patient was a child who had for some time been affected with otitis media (for which no treatment was employed), and was attacked with measles in August last. The otitis attracted no attention until the measles developed, when it became greatly aggravated; the discharge being very profuse and very foul. The child made a good recovery from the measles, but the discharge from the ear still continued. It appeared to be in quite good health until the 22d of September, when it complained of pain in the ear at night, and became fretful. There was some vomiting, and then it suddenly died. At the autopsy the auditory canal was found full of fetid and greenish pus. All the organs were normal, except the brain. In the dura mater there was a circumscribed area, which was thickened and covered with exudation; while in the left hemisphere of the cerebellum there was an abscess containing about one ounce of pus.

The point of interest in this case is, that if the ear-trouble had been properly attended to in the beginning, the abscess would probably not have developed, and the child's life would not have thus been needlessly sacrificed. (The specimen was presented.)

CYSTIC TUMOR OF THE LABIUM MAJUS.

DR. GOULEY exhibited a cystic tumor which, he said, he had recently removed from the left labium majus of a woman about thirty years of age. It had been about fifteen years since she first noticed its appearance, though for a long time it remained quite small. Once it was punctured, and once or twice it opened spontaneously, discharging a brownish fluid. Only lately it had so increased in size as to distend the whole labium. It had the characters of what is known as hydrocele of the labium majus, and contained dark mucoid fluid, which led him to infer that there had been hemorrhage into it. The mucous surface presented a trabecular appearance, and he believed that the tumor was an enlarged and dropsical vulvo-vaginal gland; an opinion in which Professor Isaac E. Taylor coincided. It was pyriform in shape, and the lower part extended for a considerable distance underneath the ramus of the ischium. In its extraction he had to divide several branches of the pubic artery, and in consequence of this he decided not to close the wound, as he had at first intended, but to leave it open and allow it to heal by granulation. The operation was a somewhat tedious and difficult one, but the patient did perfectly well afterward.

DR. A. P. DUDLEY said that he had met with a number of such cases at the Woman's Hospital. In many there was suppuration, although there was no history of gonorrhœa. In a great many cases, however, there was a history of vulvar inflammation, and gonorrhœa was frequently the cause of the trouble. If any portion of the sac were allowed to remain, it generally filled up again in case the wound were sewed up; and he believed it was, therefore, better to allow the wound to heal by granulation, as Dr. Gouley had done. In one case which he had treated, the cyst filled up three times, as a result of excessive sexual intercourse. In this instance the duct was stopped up; but in most cases the duct presented an irritated appearance.

DR. GOULEY said that in his case the entire cyst was carefully dissected out. There was nothing left, so that any refilling was out of the question. He prided himself on the fact that his knife never once entered the cyst, until after it had burst spontaneously from the pressure upon it. Then he laid it widely open.

DR. DUDLEY said he would heartily congratulate Dr. Gouly on the success of his operation.

NEW YORK STATE MEDICAL ASSOCIATION.

FIFTH DISTRICT BRANCH.

Second Annual Meeting, held at Brooklyn, October 12, 1886.

MORNING SESSION.

After the transaction of some preliminary business,

THE PRESIDENT'S ADDRESS

was delivered by DR. J. G. PORTEOUS, of Poughkeepsie. In it he congratulated the branch and the parent Association on the flourishing condition of the organization, and paid a tribute to the illustrious dead of the year, Drs. Austin Flint, Frank H. Hamilton, and Desault Guernsey, the latter being President of the Fifth District Branch at the time of his decease.

Dr. Joseph C. Hutchison, of Brooklyn, then read a *Biographical Notice of the late Frank H. Hamilton, M.D., LL.D.*

Dr. Avery Seguin, of Brooklyn, read a paper on *Some Recent Impressions of Medicine in England.*

AFTERNOON SESSION.

DR. H. A. POOLER, of Goshen, Orange County, read a paper on

THE MILK SUPPLY OF LARGE CITIES, AND THE IMPROPER MODE IN WHICH IT IS CONDUCTED.

Having spoken at considerable length of good cows' milk, and in what respects it resembles and differs from human milk, he referred to the abnormal conditions of milk. There is only one period, he said, at which a healthy cow will secrete unwholesome milk, and that is after parturition, when it contains colostrum. Such milk taken by the young or by invalids may produce very harmful results. It is certain that the milk will not be entirely free from colostrum corpuscles ten days after the birth of the calf, but the farmer, not knowing the pathological condition of the milk at such a period, or at least, the length of time that it is affected, usually saves the sixth milking, which occurs only three days after parturition. The milk of the entire dairy may thus be contaminated by the diffusion of the colostrum through it.

In speaking of the adulterations of milk, he said that many foreign substances have been added to it, but by far the most common forms of adulteration are the removal of fat and dilution with water. Pure milk furnishes an indication of the amount of fat required by the human being in the large proportion of butter to

the other solid ingredients which it contains. Besides performing certain purely mechanical offices, fat is essentially concerned in many of the chemical and vital processes of the body. As a heat producer fat stands preëminent, and it is mainly from the fat stored up in the body that sustenance is derived when the supply of food is temporarily cut off or the power of digestion is impaired by sickness. Furthermore, it is believed that nature has especially adapted butter fat to the digestion of infants. Altogether, therefore, it is essential in large quantities to the proper nutrition of young children.

Dr. Pooler then quoted from the report by Dr. C. F. Chandler (made with the assistance of C. E. Munsell, Ph.B.), published in the Second Annual Report of the New York State Board of Health (1881, 1882), as follows: "While a large proportion of the milk sold has been but moderately watered and skimmed, and is still above the standard of the poorest milk (two and a half per cent. of fat), much of the milk has been *extended* and skimmed far below this standard. So openly are these frauds practised that 'creameries' have been established in many localities, the names and locations of seventy-three such establishments being known to the writer; of which sixty-three are known to send skimmed milk to New York City, all of which is sold as whole milk on its arrival."

Later reports of C. E. Munsell, Ph.B., showed, from analysis, that this skimming amounted to from about twenty-nine to seventy-eight per cent. of the fat. Now, it can readily be seen that the mother receives this milk into her home as whole, pure milk, and dilutes it one-half to three-fourths. What then does the child have to live upon, when nature says that infants must have 3.38 per cent. of milk fat for their sustenance and development?

Up to 1883 there was no law in the State prohibiting the shipping and sale of skimmed milk; but the passage of such a law was then secured, and milk inspectors were placed upon the milk trains. Dr. Pooler told the Judiciary Committee of the Legislature that if they would pass the law, he would guarantee to reduce the death-rate of young children in the city of New York at least three thousand, and he was able to keep his promise. In 1879 the mortality in children under five years, was 12,-777, or about fifty per cent. of the births of that year. This was before the milk adulterators carried on their work so extensively as afterward. In 1880, however, the mortality in this class increased to 14,650, and while from 1878 to 1879 it increased only 300, the increase in the number of deaths from 1879 to 1880 was 2000. The mortality in 1881 was 17,737, an increase of 3000 over 1880, and about seventy-five per cent. of the births. In 1882 the number of deaths was about the same as in 1881; but if it had not been for the work that was done in the autumn of 1882 the mortality would have reached nearly 20,000; a close watch being then kept on the dealers. In the winter of 1882 and 1883 the skimmed-milk bill was passed and enforced, and, notwithstanding many discouraging circumstances, the mortality was reduced from 17,737 in 1881, and 17,520 in 1882, to 13,-856 in 1883, a reduction of some 4000.

But, unfortunately, in 1884 the good work was interfered with by the politicians. Up to that time the labor performed had been almost all voluntary services. An appropriation was, therefore, asked from the Legislature; but while this was granted, a Dairy Commission was also appointed to take charge of it, and this commission was manipulated so as to form a part of the great party "machine." There were other political changes also, and the withdrawal of Professor Chandler from the head of the Metropolitan Health Department was an irreparable loss. Hence the mortality in children under five years increased from 13,865 in 1883, to 15,272 in 1884, an increase of nearly 2000. Dr. Edson, of New York, and Dr. Bartley, of Brooklyn, had, however, done all in their power, with the means at their command, to keep the evil in check, though the small force available for this service was quite inadequate to the demands upon them.

Dr. Pooler spoke next of the adulteration of milk through the cow, by feed and otherwise. The refuse of about nine thousand distilleries, breweries, and malt-houses, in this country, is nearly all sold to feed the cows that produce the milk upon which the infantile portion of the population principally subsist. The natural food of the cow is grass, either green or dried, and when she is fed exclusively upon it, her fresh milk is generally neutral in reaction. On the contrary, the milk of cows fed either wholly or in part upon food other than the natural, is almost invariably acid. Dr. Mayer, of Berlin, found the following results: "Of cows fed with brewers' grains, red potatoes, rye, bran, and wild hay, in five instances the milk was slightly sour, in one very sour.

"Of forty cows fed with potato mash, barley husks, and clover, and barley straw, in ten examined the milk was sour, in three very sour.

"From five cows fed by a cow-feeder on lukewarm bran mash and hay, in four the fresh milk was quite neutral; in one it was decidedly alkaline."

All physicians know how easily affected infants are by acid milk, and Dr. J. Lewis Smith, in his work on diseases of children, says that milk used for children should always be alkaline. If it is acid, as shown by the proper test, it should be rejected. Dr. Hassal, in his standard work on food and its adulterations, says: "As is well known, a very considerable number of the cows which supply London with milk are kept in various confined and unhealthy places in the metropolis. Such cows are seldom turned out to grass; the system adopted being altogether unnatural and artificial. Brewers' grains and distillers' mash form much of their food. These stimulate the animals unnaturally, and under this stimulus large quantities of milk of inferior quality are secreted. The cow quickly becomes worn out and diseased in consequence."

It has been shown also, by experiment, that brewers' grains afford a most favorable soil for the development of the microbe of anthrax, and in 1879 an attack of this disease occurred in England, in a district which had been previously free from it, where it was found upon investigation, that all of the cattle infected had been fed upon grains from one particular brewery. That disease may be transmitted from the lower animals to man, is an undoubted fact; and hence it is of special importance that the cow should be kept in a healthy condition.

The facts show that the action of brewers' grains is to impoverish the milk in its most essential constituents, and largely increase its most objectionable ingredient,

casein. When the fat is not equal to the normal amount, the milk forms a hard curd in its coagulation, which is known to the skimmed-milk cheese-makers as "hickory curd;" the formation of this being directly due to the abstraction of fat. It is the cheapness of the brewers' grains, together with the large amount of milk which the cows give when fed upon them, that induces farmers to purchase this food. The proper food, wheat middlings, or wheat bran, costs twenty dollars a ton, and will yield less milk, though of far better quality, than a ton of brewers' grain, which costs only from four to six dollars.

Dr. Pooler also spoke of the evils resulting from the transportation of milk from long distances.

DR. ALFRED LUDLOW CARROLL, of New Brighton, Staten Island, read a paper on

LEPTO-MENINGITIS INFANTUM.

The clinical history and pathology of acute hydrocephalus, he said, are involved in considerable obscurity; the symptomatology varying, on the one hand, in cases having a similar morbid origin, or, on the other hand, closely corresponding in instances due to different kinds of lesion. It seems to be the general opinion that recovery from a meningeal attack in childhood precludes the idea of tubercular deposit; but whether non-natal forms of acute hydrocephalus (not secondary to disease elsewhere) are always dependent on inflammation of the pia, or whether there may be other less serious pathogenetic factors, is a question still open to discussion.

Huguenin, in Ziemssen's *Encyclopædia*, affirms that cerebral hyperæmia is the exciting cause in all instances save those occurring in marasmic conditions supervening upon chronic digestive disorders; and in these, forced to admit an anæmic state of the brain, he assumes "partly a hydrocephalus *ex vacuo*, in consequence of the diminution of the brain, partly the result of the long-continued weakness of the heart's action and slowness of the circulation, with greater emptiness of the arteries than of the veins." In the former class of cases he reiterates that we are forced to assume a true inflammatory process as the cause of the effusion into the ventricles, but at the same time states that it is impossible to say, during life, when the hyperæmia ceases and the inflammation begins. But in his description of the pathological anatomy, it is admitted that the pia "contains a moderate amount of blood, or is anæmic; no traces of arterial hyperæmia can be found. We are forced to assume that it disappeared at the moment of death."

J. LEWIS SMITH, describing tubercular and spinal meningitis conjointly, speaks of the "inflammatory action" as usually confined to the pia mater, and includes purulent meningitis of the convexity, apparently, as a more intense form; adding that serous distention of the lateral ventricles is a common result in either variety of the disease. Vogel, on the contrary, asserts that acute hydrocephalus never occurs in combination with simple meningitis, but invariably supervenes upon tuberculous meningitis.

Other authors either deny a non-tubercular origin of acute hydrops of the ventricles, or, at all events, ignore the affection which Huguenin endeavors to differentiate; an affection of which well-defined examples are not infrequently encountered, but wherein we are asked to "assume" an ante-mortem hyperæmia which suddenly changes to a post-mortem anæmia, and an inflammatory process which does not leave behind it the ordinary traces of inflammation. As regards the first of these assumed phenomena, all pathological investigations go to show that we are much more likely to be misled by a post-mortem fulness of the intracranial vessels where previous anæmia has existed than to fall into the opposite error.

On the other hand, although the mere so-called determination of blood, caused by local irritation, may speedily pass away, the evidences of inflammation are usually regarded as persistent and unmistakable after death. And these evidences lie, not in simple fulness of the larger vessels, but in the crowding of the smaller ramifications with coherent corpuscles, even in an early stage of the inflammatory process; whilst in a more advanced condition exudation products are discoverable. In inflammation of the pia of undoubted character, this membrane is lacerated and infiltrated; the arachnoid thickened and opaque; fibrinous exudation being marked. In the disease described by Huguenin there is no effusion between the dura and pia, nor in the meshes of the latter, the outer surface of which, he says, is usually remarkably dry; there is exudation at the base; the ependyma of the ventricles show no change, macroscopic or microscopic. The only significant morbid appearance is a turgescence of the choroid plexuses, sometimes with punctiform extravasations. In brief, we have to deal with a disorder of which the pathological features are, more or less rapid accumulation of fluid in the ventricles, with a specified morbid condition of the choroid plexuses; its clinical manifestations (by no means uniform) being convulsions, unconsciousness, paralytic symptoms, and disturbances in the tract of the pneumogastric and splanchnic nerves.

The known causes of serous effusions are usually found in anæmic conditions, or in mechanical impediment to the return of venous blood. Within the cranium such stagnation is especially likely to concur with arterial anæmia, since, even allowing for the balance ordinarily maintained by the ebb and flow of the cerebro-spinal fluid, atmospheric pressure tends to retard the egress of venous blood. It has long been known that in animals bled to death the intracranial vessels may retain their contents after all the rest of the system is drained. Meningeal venous turgescence of this kind, "ex vacuo," is familiar as arising from atrophy of the brain, and in other conditions associated with arterial anæmia. Furthermore, the pia gradually diminished in vascularity from the convexity toward the base, until, at the crura and pons, it is almost devoid of vessels. Finally, we have the authority of Nothnagel for doubting whether active hyperæmias can limit themselves to circumscribed regions of the brain; whilst localized ischæmia about the nasal ganglia is a more probable event, originating in arterial spasm, reflected irritation, or insufficient cardiac action.

Having devoted considerable time to the phenomena and mechanism of effusion into the ventricles, Dr. Carroll went on to say that, as to the clinical aspects of acute hydrocephalus, it is well known that convulsions are oftener due to cerebral anæmia, rapidly induced, than to any mechanical alterations of pressure upon the brain. Epilepsy is commonly conceded to be of anæmic origin, and Moxon has observed that in this disease the

convulsive seizure is often preceded by a momentary arrest of the pulse. Niemeyer affirms that the so-called symptoms of pressure in apoplexy, tumors, the various forms of hydrocephalus, and other diseases encroaching on the intracranial space, are not immediately referable to the pressure on the brain-substance, but to the consequent anæmia; and he further points out the false interpretation usually given to increased pulsation of the carotids, which he defines as an essential consequence of cerebral anæmia.

Another common mistake is to regard the vascular appearance of the external surface of the head and face as indicative of the intracranial condition. In states of general anæmia, facial pallor and cerebral anæmia are twin results of the same cause; but when the blood is pumped up toward the head in due amount, a localized ischæmia within the skull is apt to direct an increased flow into the external carotid and those branches of the internal carotid which arise before its entrance into the cranial cavity.

It is extremely difficult to discriminate during life between idiopathic lepto-meningitis, as it may be called, and other meningeal affections of childhood. In early infancy and after exhausting diseases, the secondary "hydrocephalus ex-vacuo" is to be considered rather as a mode of dying from other complaints, and the past history of the case (afterward one of protracted diarrhœa) will afford a clew to its nature. True meningitis, commonly affecting the lateral part of the convexity, arises by traumatism, or extension from adjacent foci, as in internal otitis, caries of the cranial bones, mastoid inflammation, phlebitis sinuum, etc., and although in most examples its diagnosis may be made with some confidence, it is well to know that not a few cases occur in which the symptoms simulate those of acute hydrocephalus.

Having briefly referred to his extensive post-mortem experience, which, he said, had induced him to believe that tubercular meningitis seldom, if ever, occurs except as a part of a more generalized deposit. Dr. Carroll summed up his argument by saying that he was convinced that a malady quite frequently occurring in childhood, and often erroneously reported as tubercular meningitis, characterized by serous distention of the ventricles, and variously described under the names of "simple meningitis," "lepto-meningitis," and "acute hydrocephalus," but by most writers ascribed to hyperæmia and inflammation, is, on the contrary, essentially due to cerebral anæmia; that the principal and most significant morbid factor is a varicosity of the choroid plexuses, sometimes extending to the plexuses of the fourth ventricle, and aggravating the arterial anæmia which gave it birth.

In conclusion, he submitted a microscopic preparation exhibiting the condition of venous and capillary stasis met with in these cases.

NEWS ITEMS.

TORONTO.

(From an Occasional Correspondent.)

The American Public Health Association.—The fourteenth meeting of the American Public Health Association, which was this year, for the first time, held outside of the United States, was one of the most successful in the history of the Association. For the past three years several Canadian medical officers have taken active interest in it, and have given valuable cooperation. It was in response to most urgent solicitation that the body met in Toronto from October 4th to 8th.

The work outlined was carried forward in a business way, and many valuable papers and discussions were presented. There was less of speculation and generalization than usual, and more of experience, not only telling what ought to be done but how to do it. The President, Dr. Henry P. Walcott, of Boston, had for his subject, "The Claims of Preventive Medicine and the Expectations we were Justified in Entertaining as to its Future." His first words were those of caution. He adduced the cessation of the plague, not only in England but throughout Europe, as an illustration of the fact that we cannot always attribute all the good things that happen to this or that sanitary measure. There is enough to do, he said, in the directions where both science and experience have arrived at some definite conclusions, but advance in any quarter must necessarily be slow, made under the guidance of systematic experiments and observations controlled by scientific methods, and not in the pursuit of the speculations of theorizers. The principal object of scientific inquiry in preventive medicine during the past year has been, he said, as in the preceding year, the study of the infectious diseases and the microörganisms associated with them. He went on to review what has been done and what is being done in the study of such diseases as cholera, smallpox, yellow fever, scarlet fever, rabies, and trichinosis. All these were of too much importance to be neglected by the guardians of the public health. To meet the present needs of sanitary science, the President advocated the undertaking by the general Government of scientific investigations of diseases which are so general in their distribution that the whole country is affected by them, or of such a character that the satisfactory inquiry into them would involve expenditures too great for the meagre appropriations of State and local boards of health. Some of the investigations carried on under the direction of the National Board of Health of the United States were of the highest scientific merit, and had an acknowledged authority everywhere. The public burden from the victims of the misuse of alcohol is becoming each day greater and more intolerable.

A portion of a day was devoted to papers and discussions as to the sewage problem for Toronto. Its chief general value consisted in the facts brought out as to the need of a close study of currents, eddies, and all shore changes when seeking an outfall for a sewer, and especially if somewhere from the same body of water the city water-supply is derived. The opinions of such engineers as McAlpin, Galbreath, Waring, and Jordan were drawn out, and the debate was engaged in by physicians, by the Mayor, and by some citizens.

A paper on "The Destruction of Night Soil and Garbage by Fire," and another on "Sanitation in Street Paving," as presented by Dr. Reeve for Dr. Baird, of Wheeling, were of great interest because they gave definite plans and details as to both, illustrated their practical operation by examples, and showed the economy of the

methods. So much interest was elicited that it is probable that several city officers will visit Wheeling to see the workings of the process. The following brief abstract will give some idea of the plan, which embraces the use of a Smith gas furnace for the heating of steel slabs preparatory to being rolled into nail plate. This furnace is much larger than the boiling furnace, and capable of generating a more intense heat than any furnace known. The result was as follows: A barrel of ordinary garbage or slop was burned in four minutes, a barrel of butchers' offal (bones and animal matter) was burned in seven minutes, a barrel of fluid night-soil, thrown into the furnace with buckets, was almost instantly evaporated, and a barrel of solid feces was burned in fifteen minutes.

The solid and impervious pavement was described with equal interest and detail.

Much interest centred about the discussion of the best methods of internotification of disease, as well as in the illustration by examples of its indispensable importance. On the one hand, our Canadian brethern had much to tell us as to their experience in quarantine and with smallpox, while Dr. Holt, of New Orleans, fresh from the contest with the Biloxi authorities, showed that the days of repression and concealment of facts have passed, and that the public health and the check of epidemics depends upon that *confidence* which will lead each board to give full and early notice to all adjacent boards as to cases of yellow fever, cholera, typhus, or other threatened invasion. Several city officers took part in the discussion. It was shown that mercantile and commercial interests cannot be ultimately injured if health authorities are manly and courageous, and deal promptly with the facts under proper sanitary regulation. This is well illustrated by the fact that the entire tendency of good administration is to shorten time of quarantine whether at sea or on land.

No less interesting were the details given by Dr. Thornton, the Health Officer of Memphis, and Col. Haddon, its Mayor, as to "Six Years' Sanitary Work in Memphis." Facts were detailed in a lucid way, tested statistics and death-rates were presented, the errors of their sewer system, its corrections and its value fairly exhibited. There can be no doubt that Memphis can be pointed to as a city which owes its present prosperity chiefly to the vigorous activity of its citizens in sanitary construction and administration.

The paper of Dr. Bell, of New York, on "The Disinfection of Rags," accumulated all possible references which would go to show that either rags or clothing had caused the spread of communicable diseases. It was soon evident that a gauntlet had been thrown down, and health officers from Boston, New York, New Orleans, etc., were on their feet, and efforts were made to suppress the report on the ground that it was partisan in its character. Boston officers denounced the plea for disinfection of foreign rags as special, and denied that any case of infection from rags could be cited from Massachusetts, which alone received one-third of all the rags imported. The debate lasted until after midnight, and while not settling a vexed question, it will put on record many important facts and statements.

The report of the Committee on Disinfectants dealt chiefly with the best apparatus for the use of steam in disinfection. It still inclines to this, nothwithstanding the graphic delineation of the quarantine use of corrosive sublimate by Dr. Holt. It seemed a little odd to some northern health officers that the enormous and novel use of this agent in ship disinfection was emphasized, when at Boston, for instance, it had been used extensively before it was thought of in New Orleans.

In the line of microörganisms, the only important paper was that of Dr. Salmon, of Washington, who, in a paper on "Recent Progress in the Investigation of Hog Cholera," gave the details of many interesting experiments going to determine the specific character of the microphyte of this disease. He also seems to have shown that when the culture fluid of this microbe is subjected to sufficient heat to destroy it, the remaining fluid can be used as a prophylactic and protects against the disease.

A paper on "The Best Methods and Apparatus for Teaching Hygiene in the Public Schools," by Dr. Yeomans, of Ontario, insisted upon specific instruction in hygiene as a part of school discipline, and as distinct from physiology and anatomy. He showed the value of experiments in physics bearing on the subject, and gave many valuable hints.

The Association was favored with the presence of Dr. Russell, the able Health Officer of Glasgow. He read a paper prepared as a result of his attendance. He began by saying that the country districts of Scotland are as benighted about sanitation as are those parts of America. For its eight cities he claimed some valuable advances. There are none of the political complications we have here. He criticised our tendency to be satisfied with a death-rate no larger than that of older countries, and suggested that even a death-rate of fifteen per thousand should not satisfy us in such a country as this, and especially if typhoid fever, diphtheria, scarlet fever, etc., made up much of the record. In his terse and ready style, with precision of statement, he occupied the attention of the Association for a half-hour, and was voted the honor of being its first foreign honorary member.

In a paper on "The Significance of the Decomposition of Albuminoid Substances," Dr. Bryce made the point that we should not judge of the fact or condition of nuisances by odor, but should base our opinion and decision upon their bacterial manifestations.

A valuable paper on "Alcohol" was furnished by Prof. S. E. Chaillé. In view of the absence of its author, and the pressure for time it was read only by title. Our examination of it, however, satisfies us that it will be a very valuable addition to the literature of the subject. It disputes some ordinary conclusions as to the abuse of alcohol being on the increase, and shows that intelligence is confining it more to classes. It takes very strong sanitary grounds, however, against the present system of licensing, and declares that local option is both a social and sanitary necessity.

Other papers of importance might be referred to, but what we have already said will show the type of the meeting, its great value, and its sensible advance. Surgeon Sternberg, U.S.A., was elected President for the ensuing year, and the other offices were worthily filled. The twelfth volume of reports and papers when published will be a very valuable addition to the excellent volumes which have preceded it.

CLINICAL SOCIETY OF MARYLAND.—At a meeting of the Clinical Society of Maryland, held October 1st, the following officers were elected to serve for the ensuing year:

President.—Dr. Randolph Winslow.
Vice-President.—Dr. S. T. Earle.
Recording Secretary.—Dr. A. C. Abbott.
Corresponding Secretary.—Dr. W. J. Jones.
Treasurer.—Dr. R. W. Johnston.
Executive Committee.—Drs. J. W. Chambers, H. Harlan, and B. B. Browne.

The reports of officers and committees showed a very healthy condition of the Society, the treasury having an ample surplus for current expenses, and the membership of the Society having increased to 190 active members. The Society meets on the first and third Fridays of each month at 8.30 P.M., in the hall of the Medical and Chirurgical Faculty of Maryland, northwest corner of St. Paul and Saratoga Streets.

THE JOHNS HOPKINS ENDOWMENT.—*The Baltimore Sun*, of October 7th, publishes a statement of the financial resources of the Johns Hopkins University. For the year ending August 31, 1886, the income was $225,922.38. The total expenses for the year were $185,020.96; leaving a balance of $40,901.42. Among the receipts $17,804.12 were credited to tuition. Among the expenses $126,828.26 are charged to salaries. The University owns 15,057 shares of B. & O. Railroad stocks, valued at $2,195,400. The remainder of its endowment fund is invested in bonds, stocks, mortgages, real estate, buildings, apparatus, etc. The total endowment is $4,359,350.43. In addition the University owns the Clifton estate of 280 acres, which is valued at $2000 per acre, making the property of the University worth to-day about $5,000,000.

HUDSON RIVER STATE HOSPITAL.—The managers of the Hudson River State Hospital, Poughkeepsie, N. Y., have established a training school for the instruction of those who wish to make a specialty of nursing the insane, either in private houses or public institutions.

Graduates of general hospital training schools will be admitted to the school for the period of one year. Upon passing a satisfactory examination at the close of the twelve months, they will receive diplomas bearing the seal of the hospital and the signatures of the President of the Board of Managers, the Medical Staff, and the Principal of the Training School. They will be paid at the rate of twenty dollars per month during the first six months, and twenty-five dollars per month for the second six months. For those who remain in the service of the hospital after the completion of this term, special rates of remuneration will be arranged.

Women, between the ages of twenty and thirty, who are not graduates of general hospital training schools, will be admitted to the school, and receive a course of instruction covering a period of two years. After a satisfactory examination at the conclusion of this course they will be granted certificates of graduation bearing similar signatures to the diplomas. They will receive from ten to seventeen dollars per month, rated according to proficiency and time and value of service. Special rates will be made for hospital service after graduation.

In connection with the hospital there is a training school for men who are between twenty and thirty years of age. The course of instruction covers two years, at the end of which certificates of graduation are bestowed upon evidence of competency. The men are paid at rates ranging from sixteen to twenty-two dollars per month, according to proficiency and time and value of service. Special rates are arranged with those who remain at the hospital after graduation.

All the pupils and nurses are allowed board, lodging, washing, and medical care if required, free of charge.

SIR ANDREW CLARKE declares that one-half of the population of London is permanently ill. His definition of health is: That state in which the body is not consciously present to us; that state in which work is easy, and duty not a great trial; the state in which it is a joy to see, to think, to feel, and to be.

CRITERION OF GOOD STANDING IN ILLINOIS MEDICAL SCHOOLS.—The following resolution has been adopted by the Illinois State Board of Health:

Whereas, The continuous graduation of forty-five per cent. of the total number of matriculates of a medical college—due allowance being made for the average annual loss—must be accepted as *prima facie* evidence that practically every candidate is graduated without regard to competency or qualification, therefore, be it

Resolved, That no medical college be recognized as in good standing within the meaning and intent of the Act to Regulate the Practice of Medicine in the State of Illinois, the aggregate graduates of which college amount to forty-five per cent. of its aggregate matriculates during the period of five years ending with any session subsequent to the session of 1885–86.

THE PASTEUR INSTITUTE.—The Paris Municipal Council, after a heated discussion, has voted to extend the concession of the site for the proposed Pasteur Institute, in Rue Vauquelin, from thirty to ninety-nine years.

MEDICAL SOCIETIES IN NEW YORK.—New York boasts of thirty-one different medical societies, all of which resume work during the present month. These societies meet monthly and semi-monthly. On an average there are seven or eight meetings every week in the city.

EXCISION OF A CEREBRAL TUMOR.—Another case of excision of a cerebral tumor has terminated successfully. The patient was a man who had been absolutely hemiplegic for a month, and had passed into a semi-comatose condition. Before these symptoms developed, he had endured terrible pain in the head, and had suffered from fits. On Thursday, September 23, Mr. Victor Horsley trephined over the motor region of the right hemisphere, and, after enlarging the aperture made by the trephine, succeeded in removing a large tumor from the brain; the tumor weighed four and a half ounces, was three inches long, two and a half inches broad, and two inches deep. On the day after the operation the patient was perfectly rational, and even amusing in his conversation, and said that he was quite free from pain. On September 27 the wound was entirely healed, and the man had recovered some power in his leg. This is

the fourth case in which Mr. Horsley has operated successfully on the motor area of the cortex of the brain; the three earlier cases were carefully described to the Section of Surgery at the meeting of the Association at Brighton, and the full text of his paper will be shortly published. His results constitute a real triumph for scientific surgery. Not only have the facts upon which the diagnosis of the seat of the lesion in these cases rests been discovered by experiments on lower animals, but the details of treatment have also been worked out in the course of these experiments. The complete success of the surgical method followed is demonstrated by the fact that, in two of the cases, the wound healed in four days; that, in a third, it had healed in a week; and that, in the case which was in this respect the least successful, the whole of the wound, with the exception of one-sixth, healed by first intention. A more complete proof of the validity of well-directed experiments on animals, it would be difficult to imagine; and it is no wonder that the professional agitators, who are beginning to find their supposed grounds of objection one by one swept away, pursue Mr. Horsley with a bitterness which increases as it becomes less reasonable.

A NEW MEDICAL SOCIETY.—The physicians of Brownsville and Matamoras have organized a Medical Society, and elected Dr. C. Macmanus, President, Dr. M. Cicero, Vice-President, and Dr. Valls, Secretary.

CREMATION IN GERMANY.—Cremation, it would appear, is making great progress in Germany. There has recently been held at Gotha a "Diet" of delegates from the various cremation societies in Germany, as well as of several other countries, including Italy, Switzerland, Holland, and America, the last being represented by Mr. Storer Cobb, of Boston, who is at present lecturing in Germany on the disposal of the dead by fire. The Diet discussed and approved the statutes of a general association of societies for funeral reform and optional cremation, and this association was joined by the local societies of Berlin, Potsdam, Frankfort, Darmstadt, Liegnitz, Chemnitz, Heidelberg, Dresden, Leipsic, Hamburg, Vienna, etc. These societies have already their journalistic organs in the shape of two magazines, called *Gesundheit* and *Neue Flamme* (Health and New Flame). The delegates inspected the crematorium at work in the churchyard of Gotha, and they were assured by the burgomaster that the repugnance of many to this form of burial had been completely overcome by the sight of the decorous and befitting manner in which bodies are reduced to dust by the rapid action of fire, and then inurned.

LEAD-EATING INSECTS.—A French architectural journal recalls an observation made by Viollet-le-Duc, that lead plates for roofing and other purposes are often pierced by insects. He accused the wasps of being the authors of the little holes which he found gnawed in lead roofs, but later observers have discovered that both worms and flies often drill through heavy plates. Some twenty-five years ago it was found that the lead bullets of cartridges, which had been stored in wooden boxes, were badly gnawed, and a number of gall or saw flies were found in the act of working upon them. Why these little creatures should amuse themselves in digging out the tough metal with their jaws, it is hard to say. Both males and females were found at work; and the only suggestion which our Gallic contemporary can make is, that they were, perhaps, sharpening their teeth. The first notice of perforation made by worms seems to have been made by M. Janniard, formerly official architect in charge of churches and public buildings, who observed that the lead covering of the steps on the roof of an old house in Paris was bored through in several places. Only one of the steps was attacked; and, on looking closely, he found that every hole in the lead corresponded to a worm-hole in the oak planking on which it was laid.

NOTES AND QUERIES.

IN MEMORY OF THE LATE PROFESSOR S. D. GROSS.

The flowers sometimes whose bloom is paling
Their fragrance still enfold,
And rarest fruit is often gathered
From tree and vine grown old.

'Twas so with him. Some hearts, though beating
The pulse of feeble years,
Are young in age, and often singing
Life's loves and songs through tears.

I knew him in that later ripening,
When russet hues turn white,
And saw the uprising fires of glory
That burned before the night.

. . . . .

Fame stopped him at the gates of sunset,
And on his kingly brow
She gently bound her wreaths immortal.
He needs no praises now.

—*Chicago Current.*

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY, FOR THE WEEK ENDING OCTOBER 16, 1886.

WOOLVERTON, THEORON, *Surgeon U. S. N.*—Detached from U. S. S. "Shenandoah," proceed home, and wait orders.

MEANS, V. C. B., *Assistant Surgeon U. S. N.*—Detached from U. S. S. "Shenandoah," and ordered to Receiving Ship "Independence."

PARKER, J. B., *Surgeon U. S. N.*—Detached from the U. S. S. "Swatara," proceed home, and wait orders.

SHAFER, JOSEPH, *Assistant Surgeon U. S. N.*—Detached from U. S. S. "Swatara," proceed home, and wait orders.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM OCTOBER 12 TO OCTOBER 18, 1886.

EVERTS, EDWARD, *First Lieutenant and Assistant Surgeon.*—Ordered to proceed to Fort Grant, A. T., and there take station.—*S. O. 94, Department of Arizona*, October 1, 1886.

FISHER, W. W. R., *First Lieutenant and Assistant Surgeon.*—Ordered, on the expiration of his leave of absence, to report to the Commanding Officer at Fort Bidwell, Cal., for duty as post surgeon.—*S. O. 93, Department of California*, October 4, 1886.

KENDALL, WM. P., *First Lieutenant and Assistant Surgeon.*—Leave of absence extended fifteen days.—*S. O. 239, A. G. O.*, October 14, 1886.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course, not necessarily for publication.

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